

ANNUAL REGISTER

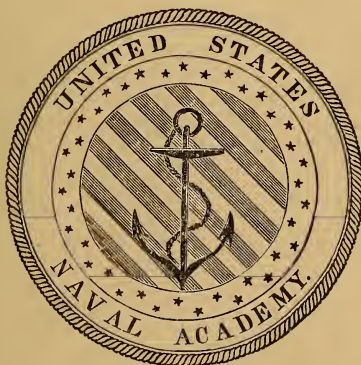
OF THE

UNITED STATES NAVAL ACADEMY,

ANNAPOLIS, MD.

THIRTY-NINTH ACADEMIC YEAR.

1888-'89.



WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1889.

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THE UNITED STATES NAVAL ACADEMY.

The United States Naval Academy was founded in 1845 by the Hon. George Bancroft, Secretary of the Navy, in the administration of President James K. Polk. It was formally opened October 10, of that year, under the name of the Naval School, with Commander Franklin Buchanan as Superintendent. It was placed at Annapolis, Md., on the land occupied by Fort Severn, which was given up by the War Department for the purpose. The course was fixed at five years, of which only the first and the last were spent at the School, the intervening three being passed at sea. This arrangement was not strictly adhered to, the exigencies of the service making it necessary, in many cases, to shorten the period of study. In January, 1846, four months after the opening of the School, the students consisted of 36 Midshipmen, of the date of 1840, who were preparing for the examination for promotion; 13 of the date of 1841, who were to remain until drafted for service at sea; and 7 Acting Midshipmen, appointed since September of the previous year. The Midshipmen of the date of 1840 were the first to be graduated, finishing their limited course in July, 1846, and they were followed in order by the subsequent dates, until the reorganization of the School, in 1850.

In September, 1849, a Board was appointed to revise the plan and regulations of the Naval School. The Board was composed of the following officers:

Commander William B. Shubrick,
Commander Franklin Buchanan,
Commander Samuel F. Du Pont,
Commander George P. Upshur,
Surgeon W. S. W. Ruschenberger,
Professor William Chauvenet,
Captain Henry Brewerton, U. S. Army.

The plan reported by the Board was approved, and went into operation July 1, 1850. The new organization provided for a course of seven years, the first two and the last two at the School and the three intermediate years at sea. The School was placed under the supervision of the Bureau of Ordnance and Hydrography, and its name was changed to the United States Naval Academy. The corps of professors was enlarged, the course was extended, and the system of separate departments, with executive heads, was fully adopted. It was provided that a Board of Visitors should make an annual inspection of the Academy, and report upon its condition to the Secretary of the Navy. A suitable vessel was attached to the Academy as a practice-ship, and the annual practice-cruises were begun.

After the system had been in operation a year, new changes were proposed, and the recommendations of the Academic Board on the subject were referred to the Board of Examiners for the year 1851, composed of the following officers:

Commodore David Conner,
Captain Samuel L. Breese,
Commander C. K. Stribling,
Commander A. Bigelow,
Commander Franklin Buchanan,
Lieutenant Thomas T. Craven.

The change recommended by the Board of Examiners, and adopted by the Department, consisted mainly in leaving out the requirement of three years of sea-service in the middle of the course, thus making the four years of study consecutive. The practice-cruise supplied the place of the omitted sea-service, and gave better oppor-

tunities of training. The change went into operation in November, 1851, together with other improvements recommended by the Board. The system has been continued, with some slight modifications, to the present time. The first class to receive the benefit of it was that which entered in 1851. Six members of this class completed the course in three years, and were graduated in June, 1854; the rest of the class followed in 1855.

In May, 1861, on the outbreak of the war, the Academy was removed to Newport, R. I. The three upper classes were detached and ordered to sea, and the remaining Acting Midshipmen were quartered in the Atlantic House and on board the frigates "Constitution" and "Santee." In the summer of 1865 the Academy was moved back to Annapolis, where it has since remained.

When the Bureau of Navigation was established, July 5, 1862, the Academy was placed under its supervision; March 1, 1867, it was placed under the direct care and supervision of the Navy Department, the administrative routine and financial management being still conducted through the Bureau. On the 11th of March, 1869, all official connection with the Bureau came to an end.

The term of the academic course was changed by law, March 3, 1873, from four to six years. The change took effect with the class that entered in the following summer.

In 1866 a class of Acting Third-Assistant Engineers was ordered to the Academy for instruction. The course embraced the subjects of steam-engineering, mechanism, chemistry, and mechanics, and practical exercises with the steam-engine and in the machine-shop. This class was graduated in June, 1868, together with two Cadet-Engineers who had entered the Academy in 1867. After an interval of four years, in October, 1871, a new class of Cadet-Engineers was admitted. This class followed a two years' course, somewhat more extended than that of the class of 1868, and was graduated in 1873. In 1872 and in 1873 new classes were admitted, the first of which left the Academy in 1874 and the second in 1875. By an act of Congress, approved February 24, 1874, the course of instruction for Cadet-Engineers was made four years instead of two; and the new provision was first applied to the class entering the Academy in the year 1874. This class was graduated in June, 1878.

By an act of Congress, approved August 5, 1882, it was provided that from that date "there shall be no appointments of Cadet-Midshipmen or Cadet-Engineers at the Naval Academy, but in lieu thereof Naval Cadets shall be appointed from each Congressional district and at large, as now provided by law for Cadet-Midshipmen, and all the undergraduates at the Naval Academy shall thereafter be designated and called 'Naval Cadets'; and, from those who successfully complete the six years' course, appointments shall hereafter be made as it is necessary to fill vacancies in the lower grades of the Line and Engineer Corps of the Navy and of the Marine Corps: *And provided further*, That no greater number of appointments into these grades shall be made each year than shall equal the number of vacancies which has occurred in the same grades during the preceding year, such appointments to be made from the graduates of the year at the conclusion of their six years' course, in order of merit, as determined by the Academic Board of the Naval Academy; the assignment to the various corps to be made by the Secretary of the Navy upon the recommendation of the Academic Board. But nothing herein contained shall reduce the number of appointments from such graduates below ten in each year, nor deprive of such appointment any graduate who may complete the six years' course during the year 1882. And if there be a surplus of graduates, those who did not receive such appointment shall be given a certificate of graduation, an honorable discharge, and one year's sea-pay, as now provided by law for Cadet-Midshipmen; and so much of section 1521 of the Revised Statutes as is inconsistent herewith is hereby repealed."

"That any Cadet whose position in his class entitles him to be retained in the service may, upon his own application, be honorably discharged at the end of the four years' course at the Naval Academy, with a proper certificate of graduation."

SUPERINTENDENTS

OF THE

UNITED STATES NAVAL ACADEMY.

Assumed command :

- Sept. 3, 1845.—Commander Franklin Buchanan.
- Mar. 15, 1847.—Commander George P. Upshur.
- July 1, 1850.—Commander Cornelius K. Stribling.
- Nov. 1, 1853.—Commander Louis M. Goldsborough.
- Sept. 15, 1857.—Captain George S. Blake.
- Sept. 9, 1865.—Rear-Admiral David D. Porter.
- Dec. 1, 1869.—Commodore John L. Worden.
- Sept. 22, 1874.—Rear-Admiral C. R. P. Rodgers.
- July 1, 1878.—Commodore Foxhall A. Parker.
- Aug. 2, 1879.—Rear-Admiral George B. Balch.
- June 13, 1881.—Rear-Admiral C. R. P. Rodgers.
- Nov. 14, 1881.—Captain F. M. Ramsay.
- Sept. 9, 1886.—Commander W. T. Sampson.

BOARD OF VISITORS, JUNE, 1888.

Rear-Admiral C. R. P. RODGERS, U. S. Navy, *President.*

Hon. E. C. WALTHALL, U. S. Senate, *Vice-President.*

| | |
|--------------------------------|--|
| Hon. A. S. PADDOCK | U. S. Senate. |
| Hon. WILLIAM MCADOO | House of Representatives. |
| Hon. GEORGE D. WISE | House of Representatives. |
| Hon. CHARLES A. BOUTELLE | House of Representatives. |
| Hon. J. PROCTOR KNOTT | Lebanon, Kentucky. |
| Dr. J. W. BROWN | Camden, Arkansas. |
| Professor J. P. BLANTON | President of State Normal College, Missouri. |
| Col. F. J. CRILLY | Philadelphia, Pennsylvania. |
| Rev. JOHN HALL, D. D. | New York City. |
| S. P. GILLETT, Esq. | Evansville, Indiana. |

ACADEMIC CALENDAR.

1888-1889.

1888.

Oct. 1.—Beginning of first term..... Monday.

1889.

Jan. 21-26.—Semi-annual examination..... Monday-Saturday.

Jan. 26.—End of first term..... Saturday.

June 1-8.—Annual examination..... Saturday-Saturday.

May 31.—End of academic year, 1888-89..... Friday.

May 15.—Examination of candidates for admission as Naval
Cadets..... Wednesday.

Sept. 2.—Examination of candidates for admission as Naval
Cadets..... Monday.

Oct. 1.—Beginning of first term, 1889-90..... Tuesday.

The academic months end on the following days:

1888-1889.

| | | | |
|----------------|---------|----------------|---------|
| October | Oct. 27 | February | Feb. 23 |
| November | Nov. 24 | March | Mar. 23 |
| December | Dec. 22 | April | Apr. 20 |
| January | Jan. 19 | May | May 25 |

1889-1890.

| | | | |
|----------------|---------|----------------|---------|
| October | Oct. 26 | December | Dec. 21 |
| November | Nov. 23 | January | Jan. 18 |

| SEPTEMBER. | | | | | | | MARCH. | | | | | | |
|------------|----|----|----|----|----|------|--------|----|----|----|----|----|------|
| Sun. | M. | T. | W. | T. | F. | Sat. | Sun. | M. | T. | W. | T. | F. | Sat. |
| | | | | | | 1 | | | | | | 1 | 2 |
| 2 | 3 | 4 | 5 | 6 | 7 | 8 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 9 | 10 | 11 | 12 | 13 | 14 | 15 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 16 | 17 | 18 | 19 | 20 | 21 | 22 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 23 | 24 | 25 | 26 | 27 | 28 | 29 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 30 | | | | | | | 31 | | | | | | |

| OCTOBER. | | | | | | | APRIL. | | | | | | |
|----------|----|----|----|----|----|----|--------|----|----|----|----|----|----|
| | | | | | | | | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | | 1 | 2 | 3 | 4 | 5 | 6 |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| 28 | 29 | 30 | 31 | | | | 28 | 29 | 30 | | | | |

| NOVEMBER. | | | | | | | MAY. | | | | | | |
|-----------|----|----|----|----|----|----|------|----|----|----|----|----|----|
| | | | | | | | | | | | | | |
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| 4 | 5 | 6 | 7 | 8 | 9 | 10 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| 18 | 19 | 20 | 21 | 22 | 23 | 24 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| 25 | 26 | 27 | 28 | 29 | 30 | | 26 | 27 | 28 | 29 | 30 | 31 | |

| DECEMBER. | | | | | | | JUNE. | | | | | | |
|-----------|----|----|----|----|----|----|-------|----|----|----|----|----|----|
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| | | | | | | 1 | | | | | | 1 | |
| 2 | 3 | 4 | 5 | 6 | 7 | 8 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 9 | 10 | 11 | 12 | 13 | 14 | 15 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 16 | 17 | 18 | 19 | 20 | 21 | 22 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| 23 | 24 | 25 | 26 | 27 | 28 | 29 | 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| 30 | 31 | | | | | | 30 | | | | | | |

| JANUARY. | | | | | | | SEPTEMBER. | | | | | | |
|----------|----|----|----|----|----|----|------------|----|----|----|----|----|----|
| | | | | | | | | | | | | | |
| | | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 6 | 7 | 8 | 9 | 10 | 11 | 12 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 20 | 21 | 22 | 23 | 24 | 25 | 26 | 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 27 | 28 | 29 | 30 | 31 | | | 29 | 30 | | | | | |

| FEBRUARY. | | | | | | | OCTOBER. | | | | | | |
|-----------|----|----|----|----|----|----|----------|----|----|----|----|----|----|
| | | | | | | | | | | | | | |
| | | | | | 1 | 2 | | | 1 | 2 | 3 | 4 | 5 |
| 3 | 4 | 5 | 6 | 7 | 8 | 9 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| 24 | 25 | 26 | 27 | 28 | | | 27 | 28 | 29 | 30 | 31 | | |

OFFICERS

ATTACHED TO THE

UNITED STATES NAVAL ACADEMY.

SUPERINTENDENT,

COMMANDER W. T. SAMPSON.

Assistant to the Superintendent in charge of Buildings and Grounds,

LIEUTENANT E. K. MOORE.

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COMMANDER P. F. HARRINGTON.

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LIEUTENANT G. B. HARBER,
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ASSISTANT NAVAL CONSTRUCTOR R. GATEWOOD,
LIEUTENANT T. M. POTTS,
ASSISTANT NAVAL CONSTRUCTOR A. M. STAHL, M. E.

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MATTHEW STROHM.

ORDNANCE AND GUNNERY.

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 ENSIGN F. J. HAESELER,
 ENSIGN M. K. EYRE.

Sword-Master,

A. J. CORBESIER.

Assistant Sword-Masters,

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 LIEUTENANT W. F. LOW,
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 PASSED-ASSISTANT ENGINEER J. S. OGDEN,
 PASSED-ASSISTANT ENGINEER W. R. KING,
 PASSED-ASSISTANT ENGINEER F. H. ELDRIDGE,
 ASSISTANT ENGINEER E. H. SCRIBNER.

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 LIEUTENANT A. McCrackin, LL. B.,
 ENSIGN JOHN HOOD,
 ENSIGN E. E. CAPEHART.

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LIEUTENANT W. G. CUTLER,
LIEUTENANT O. G. DODGE,
ENSIGN R. H. MINER,
ENSIGN S. MORGAN,
PROFESSOR C. R. SANGER, A. M., PH. D.

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Assistants,

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LIEUTENANT H. H. HOSLEY,
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ENSIGN C. N. ATWATER,
ENSIGN H. G. DRESEL,
ENSIGN H. PHELPS.

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LIEUTENANT J. B. BRIGGS,
LIEUTENANT J. C. CRESAP,
ENSIGN E. WILKINSON,
ENSIGN W. G. RICHARDSON,
PROFESSOR W. W. FAY, A. M.

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ASSISTANT PROFESSOR H. MARION.

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PASSED-ASSISTANT SURGEON D. O. LEWIS, M. D.,

PASSED-ASSISTANT SURGEON J. D. GATEWOOD, M. D.

Professor of Mathematics,

W. W. JOHNSON, A. M.

OFFICERS NOT ATTACHED TO THE ACADEMIC STAFF.

LIEUTENANT-COMMANDER S. W. VERY, *in charge of Ships.*PAY INSPECTOR T. T. CASWELL, *Pay Officer.*PAYMASTER H. T. B. HARRIS, *Commissary and General Storekeeper.*

ASSISTANT SURGEON T. A. BERRYHILL, M. D.

ASSISTANT PROFESSOR A. N. BROWN, *Librarian.*J. M. SPENCER, *Assistant Librarian.*R. M. CHASE, *Secretary.**Attached to the Ships.*

BOATSWAIN J. S. SINCLAIR,

GUNNER R. SOMMERS,

CARPENTER G. W. CONOVER.

MATES.

Attached to the Santee, the Wyoming, and the Phoebe.

S. GEE,

B. G. PERRY,

C. J. MURPHY,

W. G. SMITH,

MARINE OFFICERS.

CAPTAIN H. A. BARTLETT, *Commanding Marines.*

CAPTAIN J. M. T. YOUNG,

FIRST LIEUTENANT G. T. BATES.

ACADEMIC BOARD.

THE SUPERINTENDENT.

THE COMMANDANT OF CADETS.

THE HEAD OF THE DEPARTMENT OF SEAMANSHIP, NAVAL TACTICS, AND NAVAL CONSTRUCTION.

THE HEAD OF THE DEPARTMENT OF ORDNANCE AND GUNNERY.

THE HEAD OF THE DEPARTMENT OF ASTRONOMY, NAVIGATION, AND SURVEYING.

THE HEAD OF THE DEPARTMENT OF STEAM ENGINEERING.

THE HEAD OF THE DEPARTMENT OF MECHANICS AND APPLIED MATHEMATICS.

THE HEAD OF THE DEPARTMENT OF PHYSICS AND CHEMISTRY.

THE HEAD OF THE DEPARTMENT OF MATHEMATICS.

THE HEAD OF THE DEPARTMENT OF ENGLISH STUDIES, HISTORY, AND LAW.

THE HEAD OF THE DEPARTMENT OF MODERN LANGUAGES.

THE HEAD OF THE DEPARTMENT OF MECHANICAL DRAWING.

THE HEAD OF THE DEPARTMENT OF PHYSIOLOGY AND HYGIENE.

CADET OFFICERS.

CADET-LIEUTENANT-COMMANDER.

R. P. HOBSON.

CADET-LIEUTENANTS.

G. H. ROCK,
A. B. HOFF,S. E. KITTELLE,
G. L. FERMIER.

CADET-MASTER AND ADJUTANT.

B. S. NEUMANN.

CADET-MASTERS.

N. C. TWINING,
B. F. HUTCHISON,G. R. MARVELL,
L. M. NULTON.

CADET-ENSIGNS.

W. V. PRATT,
L. C. LUCAS,J. B. PATTON,
J. PROCHAZKA.*Cadet-petty-officers of the first class.*G. C. LONG,
W. W. PHELPS,
R. E. CARNEY,
G. W. DANFORTH,W. D. MACDOUGALL,
C. A. BRAND,
E. B. ANDERSON,
G. G. MITCHELL,R. M. DUTTON,
W. C. COLE,
E. R. LOWNDES,
T. P. MAGRUDER.*Cadet-petty-officers of the second class.*H. J. ZIEGENMEIER,
F. H. SCHOFIELD,
C. T. VOGELGESANG,
W. A. SNOW,C. B. MCVAY,
N. T. COLEMAN,
W. A. MOFFETT,
L. SPEAR,C. DAVIS,
W. H. BUCK,
J. M. BLANKENSHIP,
J. V. CHASE.*SUMMER CRUISE, 1888.*

OFFICERS AND NAVAL CADETS.

UNITED STATES PRACTICE-SHIP CONSTELLATION.

COMMANDER P. F. HARRINGTON, *Commanding.*
 LIEUTENANT-COMMANDER C. C. TODD, *Executive Officer.*
 LIEUTENANT G. P. COLVOCORESSES, *Navigator.*
 LIEUTENANT C. E. COLAHAN, *Watch Officer.*
 LIEUTENANT H. MCCREA, *Watch Officer.*
 LIEUTENANT H. H. HOSLEY, *Watch Officer.*
 LIEUTENANT R. M. DOYLE, *Watch Officer.*
 ENSIGN C. N. ATWATER, *Watch Officer.*
 ENSIGN W. C. P. MUIR, *Instructor in Navigation.*
 SURGEON M. H. SIMON.
 PASSED-ASSISTANT SURGEON A. C. H. RUSSELL.
 ASSISTANT PAYMASTER W. B. WILCOX.
 CHAPLAIN E. K. RAWSON.

NAVAL CADETS

First Class.

| | | |
|-----------|-------------|---------------|
| Anderson, | Hutchison, | Nulton, |
| Bradshaw, | Kaiser, | Offley, |
| Brand, | Kittelle, | Patton, |
| Carney, | Kirk, | Phelps, |
| Cole, | Long, | Pratt, |
| Danforth, | Lowndes, | Prochazka, |
| Driggs, | Lucas, | Rock, |
| Dutton, | Magruder, | de Steiguer, |
| Fermier, | Marvell, | Terhune, |
| Fuller, | MacDougall, | Twining, |
| Harrison, | Mitchell, | Williams, P., |
| Hobson, | Neumann, | Woodward. |
| Hoff, | | |

Third Class.

| | | |
|---------------|-----------------|-----------------|
| Allen, D. V., | Hartung, | Reese, |
| Althouse, | Hough, | Richards, |
| Anthon, | Irwin, | Robinson, |
| Beck, | Kellogg, T. S., | Robison, J. K., |
| Belknap, | Kuenzli, | Rowen, |
| Bierer, | Lane, | Russell, E. G., |
| Blamer, | Laws, | Senn, |
| Blount, | Leigh, | Shepard, |
| Brotherton, | Lyle, | Smith, H. E., |
| Caldwell, | Macfarland, | Smith, H. G., |
| Camden, | Magill, | Smith, L. G., |
| Carter, | McGrann, | Sparkman, |
| Christy, | McKelvy, | Stearns, |
| Consaul, | Maurin, | Sypher, |
| Embrey, | Moale, | Theall, |
| Emrich, | Myers, | Trickle, |
| Evans, W., | Ninde, | Watt, |
| Flowers, | Nire, | Wells, |
| Ford, | Pillot, | Willard, |
| Gillmor, | Pollock, E. T., | Williams, D., |
| Gross, | Reed, | Zahn. |

Fourth Class.

| | | |
|---------------|-------------|-----------------|
| Allen, C., | Goodwin, | McReavey, |
| Arison, | Hines, | Murray, |
| Bannon, | Hooker, | Olmsted, |
| Boltwood, | Huffington, | Payne, |
| Chadbourne, | Hussey, | Pollock, E. R., |
| Curlett, | Jones, | Powell, |
| Davis, A. R., | Kaufman, | Russell, J. H., |
| Davison, | Kilbourne, | Sawyer, |
| Day, | Lang, | Sayers, |
| Dennett, | Larkin, | Sheehan, |
| Douglas, | Low, | Sparks, |
| Ferguson, | Mallison, | Stopford, |
| Garth, | Mather, | Thompson, |
| Gibbs, W. D., | McCormick, | Trant. |

NAVAL CADETS ON BOARD THE UNITED STATES SHIP "SANTEE," RETAINED AT THE ACADEMY
FOR MACHINE-SHOP AND OTHER PRACTICAL INSTRUCTION:

Second Class.

| | | |
|---------------|------------|-----------|
| Bailey, | Buck, | Dayton, |
| Ballschmider, | Catlin, | Dinges, |
| Blankenship, | Chase, | Dismukes, |
| Bond, | Coleman, | Eaton, |
| Bostwick, | Davis, C., | Edie, |

Fourth Class—Continued.

| | | |
|----------------|-----------------|------------------|
| Everhart, | Neville, | Signor, |
| Gartley, | Price, | Snow, |
| Gibbs, G. F., | Radford, | Spear, |
| Holmes, | Rising, | Sullivan, |
| Kochersperger, | Ritter, | Taylor, |
| Latimer, | Ruhm, | Treadwell, |
| McDonald, | Ryan, E. D., | Vogelgesang, |
| McVay, | Ryan, J. P. J., | Williams, G. W., |
| Moffett, | Saunders, | Ziegemeier. |
| Moses, L. H., | Schofield, | |

SUMMARY.

| | |
|---|-----|
| On board United States practice-ship <i>Constellation</i> ----- | 142 |
| On board United States ship <i>Santee</i> ----- | 44 |
| Total.----- | 186 |

*SYNOPSIS OF THE CRUISE.**CONSTELLATION.*

Commissioned June 1, 1888.

Cadets embarked June 9, 1888.

Sailed from Annapolis June 14, 1888.

Went to sea June 21, 1888.

Arrived in Gardiner's Bay June 23.

Cruised in Long Island Sound, between New London, Conn., Newport, R. I., and Gardiner's Bay until August 18.

Arrived in Hampton Roads August 23, and at Annapolis August 29.

Cadets disembarked August 29.

RELATIVE STANDING OF NAVAL CADETS AT THE ANNUAL EXAMINATION, JUNE, 1888.

P denotes physically disqualified for the naval service.

† Found deficient, allowed a re-examination, passed, and continued with class.

‡ Found deficient, allowed a re-examination, again deficient, and recommended to be dropped.

§ Found deficient, and recommended to be dropped.

a denotes absence from examination.

Class of naval cadets appointed 1883, performing required service afloat.

| Order of merit. | Name. | State from which appointed. | Date of admission. |
|-----------------|-------------------------------|-----------------------------|--------------------|
| *1 | Stocker, Robert | Minnesota | Sept. 4, 1883 |
| *2 | Hibbs, Frank Warren | Minnesota | Sept. 4, 1883 |
| *3 | Snow, Elliot | Utah Territory | Sept. 4, 1883 |
| 4 | Decker, Benton Clark | Illinois | May 17, 1883 |
| 5 | Bristol, Mark Lambert | New Jersey | May 19, 1883 |
| 6 | Wells, Benjamin Warner, jr | Illinois | May 17, 1883 |
| 7 | McCully, Newton Alexander, jr | South Carolina | May 19, 1883 |
| 8 | Burke, Walter Safford | Illinois | May 17, 1883 |
| 9 | Cloke, William Snelling | New Jersey | May 17, 1883 |
| 10 | Stearns, Ben Wade | Iowa | May 17, 1883 |
| 11 | Bertolette, Levi Calvin | Delaware | Sept. 4, 1883 |
| 12 | Hurlbut, Samuel Ray | Connecticut | Sept. 4, 1883 |
| 13 | Moale, Edward, jr | Montana | June 17, 1882 |
| 14 | Bryan, Henry Francis | Ohio | May 2, 1883 |
| 15 | McMillan, William Graham | North Carolina | Sept. 4, 1883 |
| 16 | Durell, Edward Hovey | Massachusetts | May 17, 1883 |
| 17 | Logan, George Wood | Ohio | Sept. 3, 1883 |
| 18 | Long, Andrew Theodore | North Carolina | May 17, 1883 |
| 19 | Brown, Ford Hopkins | Iowa | May 17, 1883 |
| 20 | Peckham, Henry Lincoln | Rhode Island | May 17, 1883 |
| 21 | Washington, Thomas | North Carolina | May 17, 1883 |
| 22 | Scales, Archibald Henderson | North Carolina | May 19, 1883 |
| 23 | Stone, Clarence Morton | Indiana | Sept. 25, 1883 |
| 24 | Churchill, Creighton | Missouri | Sept. 4, 1883 |
| 25 | Davis, Archibald Hilliard | North Carolina | May 17, 1883 |
| 26 | Johnston, Charles Ernest | Ohio | May 17, 1883 |
| 27 | Draper, Herbert Lemuel | Kansas | Sept. 6, 1883 |
| 28 | Boughter, Francis | Pennsylvania | May 17, 1883 |
| 29 | Blue, Victor | South Carolina | Sept. 6, 1883 |
| 30 | Pigott, Michael Royston | Massachusetts | Sept. 20, 1883 |
| 31 | Edmonds, Samuel Preston | Missouri | May 19, 1883 |
| 32 | Burrage, Guy Hamilton | Massachusetts | Sept. 6, 1883 |
| 33 | Russell, Frank Mead | Pennsylvania | May 19, 1883 |
| 34 | Allen, Henry Asa | Wisconsin | Sept. 4, 1883 |
| 35 | Jackson, Richard Harrison | Alabama | June 4, 1883 |
| 36 | Swanstrom, Frederick Emil | Minnesota | Sept. 6, 1883 |
| 37 | Cochran, Claude Stanley | Ohio | Sept. 4, 1883 |
| 38 | Ballinger, James Grey | Kansas | Sept. 6, 1883 |
| 39 | Craig, Colin Samuel | Iowa | May 17, 1883 |
| 40 | Hudson, Charles Edward | Arkansas | Sept. 4, 1883 |
| 41 | Moseley, William Branch | Texas | Sept. 6, 1883 |
| 42 | Young, Louis le Sassier | Louisiana | Sept. 6, 1883 |
| 43 | O'Halloran, Thomas Michael | Pennsylvania | May 17, 1883 |

Class appointed in 1884, 35 members,

| Order of general merit. | Name. | State. | Date of admission. |
|-------------------------|---------------------------------|---------------|--------------------|
| *1 | Vansant, William Newton | Pennsylvania | Sept. 4, 1884 |
| *2 | Marble, Frank | New York | Sept. 4, 1884 |
| 3 | Wilbur, Curtis Dwight | Dakota | May 19, 1884 |
| 4 | Robertson, Ashley Herman | Illinois | Sept. 4, 1884 |
| 5 | Brittain, Carlo Bonaparte | Kentucky | May 19, 1884 |
| 6 | Morgan, Casey Bruce | Mississippi | Sept. 4, 1884 |
| 7 | Croze, William Michael | Indiana | May 19, 1884 |
| 8 | Miller, Marcus Lyon | Massachusetts | Sept. 4, 1884 |
| 9 | Hayward, George North | New York | May 19, 1884 |
| 10 | Koester, Oscar William | Pennsylvania | April 5, 1884 |
| 11 | Beswick, Delworth Wilson | Michigan | May 20, 1884 |
| 12 | Hubbard, John Flavel | New York | Sept. 5, 1884 |
| 13 | Lejeune, John Archer | Louisiana | May 19, 1884 |
| 14 | Robison, Samuel Shelburn | Pennsylvania | Sept. 4, 1884 |
| 15 | Chandler, Lloyd Horwitz | New Hampshire | Sept. 4, 1884 |
| 16 | Hartrath, Armin | Michigan | Sept. 4, 1884 |
| 17 | Ingate, Clarence Louis Adrian | Alabama | May 20, 1884 |
| 18 | Benham, Henry Kennedy | New York | May 19, 1884 |
| 19 | West, Ernest Edward | Georgia | May 23, 1884 |
| 20 | Hughes, Charles Frederic | Maine | Sept. 6, 1884 |
| 21 | Norton, Albert Leland | Ohio | May 23, 1884 |
| 22 | Stafford, Leroy Augustus | Louisiana | Sept. 15, 1884 |
| 23 | Aiken, Samuel James | Tennessee | Sept. 4, 1884 |
| 24 | Cole, Eli Kelley | New York | Sept. 4, 1883 |
| 25 | Anderson, Louis Joseph | Georgia | May 27, 1884 |
| 26 | Franklin, William Buell | Maryland | May 20, 1884 |
| 27 | Reid, James Henry | Virginia | Sept. 4, 1884 |
| 28 | Cramer, Stuart Warren | Illinois | Sept. 4, 1884 |
| 29 | Stickney, Herman Osman | Kentucky | Sept. 4, 1884 |
| 30 | Beach, Edward Latimer | Minnesota | May 20, 1884 |
| 31 | Bassett, Frederick Brewster, jr | New York | May 19, 1884 |
| 32 | Gates, Herbert Grenville | Michigan | Sept. 4, 1884 |
| 33 | Monroe, Moses Daniel | New York | May 19, 1884 |
| 34 | Wiley, Henry Ariosto | Texas | May 17, 1883 |
| 35 | Kane, Theodore Porter | New York | May 19, 1884 |

performing required service afloat.

| Age at date of admission. | | Order of merit in— | | | | | | | | Number of demerits. | Sea service in practice-ships. | | Order of general merit. |
|---------------------------|---------|---------------------------------------|---|-----------------------|---|-----------------------|---|-------------------------|----------|---------------------|--------------------------------|-------|-------------------------|
| Years. | Months. | Astronomy, navigation, and surveying. | Method of least squares, and strength of materials. | Ordnance and gunnery. | Seamanship, ship - building, and naval tactics. | Practical seamanship. | Practical instruction in steam engineering. | Physiology and hygiene. | Conduct. | | Months. | Days. | |
| 15 | 6 | 1 | 1 | 1 | 1 | 1 | 11 | 1 | 12 | 22 | 5 | 8 | 1 |
| 17 | 0 | 2 | 2 | 2 | 12 | 1 | 13 | 5 | 13 | 25 | 5 | 8 | 2 |
| 17 | 5 | 4 | 4 | 3 | 7 | 5 | 5 | 7 | 2 | 5 | 6 | 20 | 3 |
| 16 | 8 | 4 | 8 | 7 | 4 | 13 | 3 | 13 | 24 | 52 | 5 | 8 | 4 |
| 17 | 4 | 6 | 6 | 4 | 3 | 4 | 1 | 11 | 1 | 0 | 7 | 20 | 5 |
| 16 | 10 | 7 | 9 | 5 | 5 | 12 | 13 | 8 | 29 | 69 | 5 | 8 | 6 |
| 17 | 3 | 9 | 26 | 17 | 10 | 6 | 27 | 13 | 19 | 32 | 7 | 20 | 7 |
| 17 | 11 | 20 | 25 | 21 | 18 | 32 | 17 | 28 | 14 | 27 | 5 | 8 | 8 |
| 17 | 11 | 22 | 24 | 8 | 7 | 8 | 32 | 9 | 34 | 132 | 7 | 20 | 9 |
| 17 | 10 | 9 | 10 | 12 | 6 | 10 | 11 | 31 | 8 | 13 | 7 | 20 | 10 |
| 15 | 8 | 18 | 14 | 22 | 13 | 22 | 16 | 22 | 2 | 5 | 7 | 20 | 11 |
| 17 | 2 | 12 | 15 | 15 | 11 | 10 | 32 | 3 | 28 | 67 | 5 | 8 | 12 |
| 17 | 4 | 12 | 12 | 15 | 15 | 30 | 27 | 10 | 22 | 40 | 7 | 20 | 13 |
| 17 | 3 | 16 | 7 | 14 | 20 | 8 | 2 | 16 | 11 | 18 | 5 | 8 | 14 |
| 15 | 0 | 14 | 29 | 10 | 2 | 3 | 3 | 2 | 5 | 6 | 5 | 8 | 15 |
| 16 | 0 | 8 | 5 | 8 | 14 | 22 | 20 | 4 | 35 | 143 | 5 | 8 | 16 |
| 16 | 4 | 15 | 16 | 11 | 15 | 16 | 24 | 16 | 6 | 7 | 7 | 20 | 17 |
| 16 | 9 | 22 | 13 | 18 | 24 | 28 | 20 | 15 | 16 | 29 | 7 | 20 | 18 |
| 16 | 10 | 21 | 11 | 23 | 24 | 26 | 8 | 18 | 20 | 33 | 5 | 5 | 19 |
| 17 | 10 | 17 | 30 | 13 | 9 | 6 | 8 | 12 | 7 | 8 | 5 | 8 | 20 |
| 17 | 11 | 24 | 17 | 27 | 19 | 18 | 13 | 6 | 10 | 16 | 7 | 20 | 21 |
| 14 | 9 | 3 | 3 | 5 | 27 | 18 | 17 | 24 | 24 | 52 | 5 | 8 | 22 |
| 17 | 7 | 9 | 18 | 19 | 21 | 14 | 8 | 26 | 2 | 5 | 5 | 8 | 23 |
| 16 | 0 | 18 | 27 | 19 | 22 | 21 | 20 | 19 | 16 | 29 | 7 | 14 | 24 |
| 17 | 10 | 31 | 33 | 27 | 27 | 31 | 5 | 33 | 33 | 99 | 7 | 20 | 25 |
| 16 | 3 | 27 | 20 | 30 | 24 | 17 | 29 | 26 | 26 | 58 | 7 | 20 | 26 |
| 14 | 9 | 33 | 27 | 24 | 33 | 32 | 35 | 35 | 15 | 28 | 5 | 8 | 27 |
| 16 | 5 | 24 | 21 | 26 | 34 | 26 | 29 | 22 | 18 | 30 | 5 | 8 | 28 |
| 16 | 8 | 26 | 34 | 32 | 29 | 29 | 5 | 25 | 9 | 15 | 5 | 8 | 29 |
| 16 | 10 | 32 | 19 | 31 | 31 | 34 | 24 | 28 | 23 | 42 | 7 | 20 | 30 |
| 15 | 4 | 27 | 30 | 33 | 35 | 24 | 34 | 21 | 26 | 58 | 7 | 20 | 31 |
| 17 | 4 | 34 | 32 | 29 | 23 | 25 | 29 | 20 | 30 | 89 | 5 | 8 | 32 |
| 17 | 7 | 27 | 35 | 34 | 30 | 35 | 20 | 30 | 32 | 94 | 7 | 20 | 33 |
| 16 | 3 | 34 | 21 | 35 | 31 | 18 | 24 | 32 | 21 | 34 | 7 | 9 | 34 |
| 15 | 2 | 27 | 21 | 24 | 17 | 14 | 17 | 33 | 31 | 92 | 7 | 20 | 35 |

| Order of merit. | Name. | State. | Date of admission. |
|-----------------|------------------------------|----------------|--------------------|
| 34 | Anderson, Ernest Bentley | Kentucky | May 22, 1885 |
| 13 | Bradshaw, George Brown | Texas | Sept. 4, 1885 |
| 29 | Brand, Charles Augustine | Connecticut | Sept. 8, 1885 |
| 27 | Carney, Robert Ernest | Wisconsin | May 21, 1885 |
| 22 | Cole, William Carey | Illinois | Sept. 5, 1885 |
| 7 | Danforth, George Washington | Missouri | Sept. 7, 1885 |
| † | Driggs, Louis Labadie | Nebraska | Sept. 28, 1885 |
| 32 | Dutton, Robert McMillan | California | Sept. 4, 1885 |
| 31 | Fermier, George Lucien | Indiana | May 21, 1885 |
| 28 | Fuller, Ben Hebard | Michigan | May 22, 1885 |
| 30 | Harrison, William Kelley | Texas | May 23, 1885 |
| *1 | Hobson, Richmond Pearson | Alabama | May 21, 1885 |
| 3 | Hoff, Arthur Bainbridge | At large | Sept. 28, 1885 |
| 6 | Hutchison, Benjamin Franklin | Missouri | Sept. 5, 1885 |
| 17 | Kaiser, Louis Anthony | Illinois | May 20, 1885 |
| † | Kirk, George William | Missouri | Sept. 7, 1885 |
| 9 | Kittelle, Sumner Ely | New York | May 19, 1885 |
| 20 | Long, Charles Grant | Massachusetts | Sept. 7, 1885 |
| 15 | Lowndes, Edward Rutledge | Michigan | Sept. 29, 1885 |
| 14 | Lucas, Lewis Clarke | Ohio | Sept. 9, 1885 |
| 16 | MacDougall, William Dugald | New York | May 19, 1885 |
| 26 | Magruder, Thomas Pickett | Mississippi | Sept. 3, 1885 |
| 11 | Marvell, George Ralph | Massachusetts | Sept. 7, 1885 |
| 24 | Mitchell, George Grant | Indiana | Sept. 7, 1885 |
| 12 | Neumann, Bertram Stansbury | New Jersey | May 22, 1885 |
| 5 | Nulton, Louis McCoy | Virginia | Sept. 8, 1885 |
| 21 | Offley, Cleland Nelson | Indiana | Sept. 5, 1885 |
| 10 | Patton, John Bryson | South Carolina | May 21, 1885 |
| 25 | Phelps, William Woodward | Maryland | May 19, 1885 |
| 8 | Pratt, William Veazie | Maine | Sept. 9, 1885 |
| 33 | Prochazka, Julius | Wisconsin | Sept. 7, 1885 |
| 2 | Rock, George Henry | Michigan | May 20, 1885 |
| 18 | de Steiguer, Louis Rudolph | Ohio | Mar. 17, 1885 |
| 23 | Terhune, Warren Jay | New Jersey | May 19, 1885 |
| 4 | Twining, Nathan Crook | Wisconsin | Sept. 4, 1885 |
| 19 | Williams, Philip | Vermont | Sept. 4, 1885 |
| † | Woodward, Henry Lake | New York | May 19, 1885 |

36 members.

| Age at date of admission. | | Order of merit in— | | | | | | | Number of demerits. | Sea-service in practice-ships. | | |
|---------------------------|---------|---------------------|--------------------|-------------------------|-------------------------|----------------------------|---|----------|---------------------|--------------------------------|-------|-----------------|
| Years. | Months. | Mechanical drawing. | International law. | Calculus and mechanics. | Sound, light, and heat. | Electricity and magnetism. | Steam machinery, marine engines, and boilers. | Conduct. | | Months. | Days. | Order of merit. |
| 16 | 8 | 37 | 34 | 32 | 25 | 34 | 34 | 14 | 55 | 8 | 0 | 34 |
| 15 | 4 | 35 | 28 | 5 | 14 | 9 | 11 | 31 | 120 | 5 | 7 | 13 |
| 17 | 4 | 29 | 23 | 24 | 29 | 28 | 34 | 21 | 75 | 5 | 7 | 29 |
| 16 | 5 | 17 | 21 | 28 | 20 | 19 | 20 | 35 | 140 | 7 | 9 | 27 |
| 17 | 1 | 26 | 10 | 15 | 18 | 17 | 24 | 30 | 118 | 5 | 7 | 22 |
| 17 | 7 | 9 | 13 | 12 | 5 | 7 | 7 | 14 | 55 | 5 | 7 | 7 |
| 17 | 1 | 25 | 16 | 36 | 37 | 36 | 33 | 37 | 180 | 3 | 23 | † |
| 15 | 10 | 20 | 16 | 30 | 36 | 32 | 30 | 28 | 102 | 5 | 7 | 32 |
| 17 | 2 | 9 | 37 | 33 | 32 | 34 | 34 | 10 | 41 | 7 | 7 | 31 |
| 15 | 3 | 9 | 25 | 17 | 29 | 19 | 25 | 36 | 176 | 7 | 7 | 28 |
| 14 | 10 | 32 | 30 | 34 | 32 | 19 | 28 | 12 | 45 | 8 | 0 | 30 |
| 14 | 9 | 20 | 4 | 1 | 2 | 2 | 1 | 17 | 57 | 8 | 0 | *1 |
| 15 | 9 | 13 | 4 | 2 | 4 | 4 | 4 | 16 | 56 | 3 | 28 | 3 |
| 17 | 7 | 17 | 8 | 7 | 7 | 3 | 15 | 4 | 16 | 5 | 7 | 6 |
| 15 | 1 | 28 | 31 | 7 | 32 | 13 | 12 | 27 | 101 | 8 | 0 | 17 |
| 17 | 1 | 16 | 32 | 37 | 26 | 28 | 32 | 19 | 72 | 3 | 22 | † |
| 17 | 11 | 4 | 1 | 20 | 7 | 10 | 16 | 2 | 13 | 8 | 0 | 9 |
| 15 | 9 | 15 | 27 | 20 | 20 | 22 | 26 | 6 | 29 | 5 | 7 | 20 |
| 17 | 8 | 1 | 12 | 16 | 15 | 11 | 12 | 32 | 127 | 5 | 7 | 15 |
| 17 | 10 | 7 | 6 | 27 | 11 | 12 | 8 | 22 | 77 | 5 | 7 | 14 |
| 16 | 11 | 5 | 14 | 24 | 12 | 25 | 14 | 9 | 37 | 8 | 0 | 16 |
| 17 | 10 | 30 | 18 | 22 | 20 | 33 | 28 | 25 | 86 | 5 | 7 | 26 |
| 16 | 0 | 2 | 19 | 9 | 13 | 18 | 23 | 1 | 9 | 5 | 7 | 11 |
| 16 | 0 | 19 | 36 | 17 | 28 | 26 | 26 | 13 | 48 | 5 | 7 | 24 |
| 17 | 7 | 6 | 29 | 19 | 16 | 14 | 9 | 5 | 20 | 8 | 0 | 12 |
| 16 | 1 | 3 | 19 | 10 | 10 | 6 | 2 | 8 | 35 | 5 | 7 | 5 |
| 16 | 3 | 20 | 22 | 28 | 16 | 22 | 17 | 20 | 73 | 5 | 7 | 21 |
| 17 | 11 | 20 | 33 | 13 | 24 | 14 | 4 | 18 | 61 | 8 | 0 | 10 |
| 15 | 6 | 12 | 26 | 26 | 32 | 22 | 19 | 26 | 93 | 8 | 0 | 25 |
| 16 | 6 | 14 | 9 | 10 | 6 | 8 | 10 | 23 | 79 | 5 | 7 | 8 |
| 16 | 10 | 33 | 35 | 31 | 29 | 30 | 31 | 24 | 85 | 5 | 7 | 33 |
| 16 | 6 | 8 | 3 | 4 | 1 | 1 | 3 | 2 | 13 | 8 | 0 | 2 |
| 18 | 0 | 26 | 23 | 14 | 19 | 31 | 18 | 11 | 42 | 8 | 0 | 18 |
| 16 | 1 | 33 | 7 | 23 | 9 | 16 | 22 | 29 | 109 | 8 | 0 | 23 |
| 16 | 8 | 24 | 1 | 3 | 3 | 5 | 6 | 7 | 33 | 5 | 7 | 4 |
| 15 | 7 | 30 | 15 | 6 | 27 | 27 | 20 | 33 | 130 | 5 | 7 | 19 |
| 17 | 1 | 36 | 11 | 34 | 20 | 37 | 37 | 34 | 131 | 7 | 20 | † |

| Order of annual merit. | Name. | State. | Date of admission. |
|------------------------|---------------------------------|----------------------|--------------------|
| 17 | Bailey, Claude | Arkansas | Sept. 8, 1886 |
| 39 | Ballschmider, Frederick William | Wisconsin | Sept. 4, 1886 |
| 11 | Blankenship, John Millington | Virginia | May 20, 1886 |
| 29 | Bond, Charles Otis | Iowa | Sept. 8, 1886 |
| 26 | Bostwick, Lucius Allyn | Massachusetts | Sept. 7, 1886 |
| 9 | Buck, William Henry | Mississippi | May 22, 1886 |
| 22 | Catlin, Albertus Wright | Minnesota | May 24, 1886 |
| 5 | Chase, Jehu Valentine | Louisiana | Sept. 28, 1886 |
| *3 | Coleman, Noah Tunnicliff | New York | May 21, 1886 |
| 6 | Davis, Cleland | Kentucky | May 22, 1886 |
| 27 | Dayton, John Havens | At large | Sept. 13, 1886 |
| 38 | Dinges, John William* | Pennsylvania | Sept. 7, 1886 |
| 34 | Dismukes, Doctor Eugene | Mississippi | May 21, 1886 |
| | Eaton, Frederick Lloyd | Michigan | Sept. 6, 1886 |
| 31 | Edie, John Rufus | At large | May 19, 1886 |
| 18 | Everhart, Lay Hampton | Alabama | May 20, 1886 |
| 12 | Gartley, Alonzo | Iowa | May 23, 1886 |
| † | Gibbs, George Fort | District of Columbia | May 19, 1886 |
| 2 | Holland, Frank | Michigan | May 22, 1886 |
| 16 | Holmes, Urban Tigner | Arkansas | Sept. 13, 1886 |
| | Kochersperger, Frank Henry | Pennsylvania | May 20, 1886 |
| 38 | Latimer, Julius Lane | West Virginia | Sept. 30, 1886 |
| 37 | McDonald, Erwin Huntington | New York | Sept. 7, 1886 |
| 14 | McVay, Charles Butler | Colorado | May 19, 1886 |
| 20 | Moffett, William Adger | South Carolina | Sept. 6, 1886 |
| 21 | Moses, Lawrence Henry | New York | Sept. 29, 1886 |
| 32 | Neville, Wendell Cushing | Virginia | Sept. 13, 1886 |
| † 2 | Norton, Walter Smith | New York | Sept. 7, 1886 |
| 23 | Price, Claude Bernard | Mississippi | June 2, 1886 |
| 28 | Radford, Cyrus Lugg | Kentucky | May 25, 1886 |
| 24 | Rising, Franklin Sidney | Nevada | May 20, 1886 |
| † | Ritter, Henry Snyder | Pennsylvania | May 25, 1886 |
| *1 | Ruhn, Thomas Francis | Tennessee | May 20, 1886 |
| 36 | Ryan, Eugene Dewey | New York | Sept. 4, 1886 |
| † | Ryan, John Paul Joseph | New York | Sept. 6, 1886 |
| 35 | Saunders, William Turner | At large | May 21, 1886 |
| 7 | Schofield, Frank Herman | New York | May 21, 1886 |
| 8 | Signor, Matt Howland | Nebraska | May 21, 1886 |
| 15 | Snow, William Alanson | Massachusetts | Sept. 4, 1886 |
| 2 | Soule, John Lutman | Illinois | Sept. 4, 1886 |
| *2 | Spear, Lawrence | Ohio | May 19, 1886 |
| 30 | Sullivan, Franklin Buchanan | At large | May 22, 1886 |
| 19 | Taylor, Montgomery Meigs | At large | May 21, 1886 |
| 25 | Treadwell, Thomas Conrad | Massachusetts | May 21, 1886 |
| 13 | Vogelgesang, Charles Theodore | California | Sept. 6, 1886 |
| 2 | Ward, George Creighton | New York | May 21, 1886 |
| 10 | Williams, George Washington | South Carolina | Sept. 28, 1886 |
| *4 | Ziegemeier, Henry Joseph | Ohio | May 21, 1886 |

* Died September 19, 1888.

43 members.

| Age at date of admission. | | Order of merit in— | | | | | | | Sea-service in practice-ships. | | Order of annual merit. |
|---------------------------|---------|--|------------|---------------------------------------|---------------------|---------------------|----------|---------------------|--------------------------------|-------|------------------------|
| Years. | Months. | Trigonometry, analytical geometry, and descriptive geometry. | Chemistry. | English history and the Constitution. | French and Spanish. | Mechanical drawing. | Conduct. | Number of demerits. | Months. | Days. | |
| 15 | 10 | 16 | 23 | 26 | 21 | 29 | 12 | 78 | 2 | 15 | 17 |
| 16 | 4 | 42 | 36 | 39 | 46 | 33 | 33 | 168 | 2 | 15 | 39 |
| 17 | 9 | 19 | 22 | 12 | 22 | 7 | 4 | 36 | 5 | 2 | 11 |
| 15 | 9 | 27 | 32 | 29 | 34 | 18 | 17 | 95 | 2 | 15 | 29 |
| 16 | 6 | 26 | 11 | 15 | 44 | 23 | 34 | 173 | 2 | 15 | 26 |
| 17 | 7 | 13 | 12 | 5 | 19 | 17 | 15 | 79 | 5 | 2 | 9 |
| 17 | 5 | 17 | 20 | 39 | 27 | 28 | 24 | 139 | 5 | 2 | 22 |
| 17 | 8 | 6 | 7 | 21 | 7 | 10 | 23 | 121 | 2 | 15 | 5 |
| 16 | 2 | 2 | 2 | 2 | 10 | 5 | 31 | 160 | 5 | 2 | *3 |
| 16 | 6 | 9 | 6 | 8 | 8 | 6 | 21 | 119 | 5 | 2 | 6 |
| 17 | 11 | 23 | 14 | 12 | 28 | 45 | 25 | 140 | 2 | 15 | 27 |
| 16 | 9 | 28 | 17 | 35 | 44 | 43 | 10 | 75 | 2 | 15 | 33 |
| 16 | 7 | 28 | 29 | 37 | 38 | 31 | 36 | 189 | 5 | 2 | 34 |
| 16 | 5 | 35 | 44 | 11 | 25 | 41 | 40 | 207 | 2 | 15 | |
| 15 | 7 | 42 | 38 | 48 | 10 | 16 | 19 | 106 | 2 | 17 | 31 |
| 16 | 5 | 8 | 25 | 46 | 35 | 3 | 43 | 220 | 5 | 2 | 18 |
| 16 | 7 | 11 | 19 | 20 | 30 | 1 | 28 | 152 | 5 | 2 | 12 |
| 16 | 2 | 37 | 46 | 31 | 1 | 4 | 39 | 197 | 5 | 2 | † |
| 17 | 6 | 44 | 34 | 35 | 47 | 18 | 38 | 194 | 5 | 2 | ‡ |
| 17 | 4 | 15 | 16 | 25 | 17 | 22 | 29 | 153 | 2 | 15 | 16 |
| 16 | 3 | 45 | 31 | 34 | 35 | 2 | 16 | 84 | 5 | 2 | |
| 17 | 11 | 35 | 25 | 31 | 33 | 47 | 42 | 219 | 2 | 15 | 38 |
| 16 | 10 | 39 | 36 | 23 | 32 | 42 | 37 | 190 | 2 | 15 | 37 |
| 17 | 7 | 12 | 27 | 22 | 13 | 31 | 7 | 56 | 2 | 2 | 14 |
| 16 | 10 | 32 | 27 | 17 | 20 | 15 | 12 | 78 | 2 | 15 | 20 |
| 16 | 2 | 10 | 21 | 28 | 4 | 46 | 48 | 245 | 2 | 15 | 21 |
| 16 | 11 | 37 | 39 | 43 | 24 | 25 | 21 | 119 | 2 | 15 | 32 |
| 16 | 6 | a | | 29 | | | 12 | 78 | 2 | 15 | ‡ |
| 17 | 7 | 41 | 9 | 17 | 29 | 29 | 8 | 66 | 5 | 2 | 23 |
| 17 | 11 | 25 | 35 | 45 | 41 | 8 | 18 | 98 | 5 | 2 | 28 |
| 16 | 11 | 20 | 24 | 37 | 14 | 35 | 26 | 143 | 5 | 2 | 24 |
| 16 | 3 | 18 | 43 | 14 | 39 | 39 | 1 | 22 | 5 | 2 | † |
| 16 | 6 | 1 | 1 | 1 | 2 | 11 | 10 | 75 | 5 | 2 | *1 |
| 16 | 6 | 34 | 41 | 33 | 26 | 39 | 30 | 157 | 2 | 15 | 36 |
| 15 | 11 | 40 | 45 | 42 | 37 | 36 | 32 | 164 | 2 | 15 | † |
| 16 | 1 | 28 | 39 | 44 | 40 | 34 | 27 | 144 | 5 | 2 | 35 |
| 17 | 4 | 14 | 3 | 4 | 14 | 12 | 5 | 46 | 5 | 2 | 7 |
| 15 | 5 | 3 | 5 | 24 | 12 | 20 | 46 | 230 | 5 | 2 | 8 |
| 16 | 7 | 31 | 32 | 7 | 17 | 9 | 6 | 55 | 2 | 15 | 15 |
| 17 | 4 | 47 | 42 | 39 | 43 | 44 | 34 | 173 | 2 | 15 | ‡ |
| 15 | 6 | 5 | 4 | 3 | 6 | 13 | 9 | 74 | 5 | 2 | *2 |
| 14 | 10 | 22 | 29 | 26 | 30 | 21 | 44 | 224 | 4 | 2 | 30 |
| 16 | 7 | 24 | 14 | 15 | 9 | 14 | 45 | 225 | 5 | 2 | 19 |
| 16 | 11 | 32 | 13 | 17 | 22 | 38 | 20 | 116 | 5 | 2 | 25 |
| 17 | 7 | 21 | 17 | 10 | 3 | 36 | 2 | 27 | 2 | 15 | 13 |
| 17 | 10 | 46 | 47 | 47 | 41 | 27 | 47 | 239 | 3 | 17 | ‡ |
| 17 | 1 | 6 | 7 | 9 | 16 | 25 | 41 | 218 | 2 | 15 | 10 |
| 17 | 1 | 3 | 10 | 5 | 5 | 23 | 3 | 29 | 5 | 2 | *4 |

| Order of merit. | Name. | State. | Date of admission. |
|-----------------|---------------------------------|-----------------|--------------------|
| 24 | Allen, David Van Horn | Tennessee | Sept. 6, 1887 |
| 41 | Althouse, Adelbert | Illinois | May 21, 1887 |
| 22 | Anthon, Archibald | New York | June 9, 1887 |
| 37 | Beck, William Walker | Maryland | Sept. 6, 1887 |
| *4 | Belknap, Reginald Rowan | Arkansas | Sept. 5, 1887 |
| 51 | Bierer, Bion Barnett | Kansas | Sept. 24, 1887 |
| 19 | Blamer, De Witt | Iowa | May 19, 1887 |
| 31 | Blount, Irving | Indiana | Sept. 6, 1887 |
| 36 | Brotherton, William Daniel | Wisconsin | Sept. 6, 1887 |
| 30 | Caldwell, Harry Handly | Illinois | Sept. 7, 1887 |
| 56 | Camden, Bernard Holt | West Virginia | Aug. 27, 1887 |
| 28 | Carter, James Francis | Pennsylvania | Mar. 24, 1887 |
| 18 | Christy, Harley Hannibal | Ohio | May 24, 1887 |
| 45 | Consaul, Charles Follett | Michigan | May 21, 1887 |
| 662 | Embrey, Wiley Sims | Tennessee | Sept. 6, 1887 |
| 26 | Emrich, Charles Rulf | Illinois | May 19, 1887 |
| 42 | Evans, Waldo | Kansas | Sept. 7, 1887 |
| 43 | Flowers, Robert Lee | North Carolina | Sept. 7, 1887 |
| 32 | Ford, William Howland | Iowa | Sept. 7, 1887 |
| 2 | Gilchrist, Clarence Dyer | Indiana | Sept. 12, 1887 |
| *3 | Gillmor, Horatio Gonzalo | Wisconsin | Sept. 5, 1887 |
| 59 | Gross, Louis Herman | Illinois | May 19, 1887 |
| 27 | Hartung, Renwick John | Iowa | Sept. 6, 1887 |
| 11 | Hough, Henry Hughes | Massachusetts | Sept. 6, 1887 |
| 48 | Irwin, Noble Edward | Ohio | Sept. 20, 1887 |
| 56 | Jenkins, Thomas Leoline | North Carolina | May 21, 1887 |
| a | Jewell, Charles Theodore | At large | May 19, 1887 |
| 49 | Kellogg, Thomas Steele | At large | May 21, 1887 |
| 12 | Kuenzli, Henry Charles | Wisconsin | Sept. 6, 1887 |
| 2 | Lancaster, William Lycurgus | Alabama | May 23, 1887 |
| 44 | Lane, Rufus Herman | Ohio | June 2, 1887 |
| 29 | Laws, George William | Iowa | May 21, 1887 |
| 46 | Leigh, Richard Henry | Mississippi | Sept. 6, 1887 |
| 58 | Leonard, Will Walker | Texas | Sept. 30, 1886 |
| 55 | Lyle, Charles William | Virginia | Sept. 5, 1887 |
| 47 | Macfarland, Horace Greeley | New York | Sept. 6, 1887 |
| 38 | Magill, Louis John | Pennsylvania | June 17, 1887 |
| 23 | McGrann, William Hugh | Tennessee | May 20, 1887 |
| 40 | McKelvy, William Nepler | Pennsylvania | May 20, 1887 |
| *6 | McLemore, Albert Sidney | Tennessee | May 23, 1887 |
| 54 | Maurin, Timothy Francis | Louisiana | May 21, 1887 |
| 16 | Moale, John Gray Foster | California | Sept. 6, 1887 |
| 63 | Myers, John Twiggs | Georgia | Sept. 27, 1887 |
| 9 | Ninde, Daniel Benjamin | Indiana | May 20, 1887 |
| 52 | Nire, Kaga Kazu | Empire of Japan | May 21, 1887 |
| 4 | Pillot, Peter Stuyvesant | Nebraska | Sept. 7, 1887 |
| 15 | Pollock, Edwin Taylor | Ohio | May 20, 1887 |
| 13 | Preston, Charles Francis | Maryland | Sept. 6, 1887 |

71 members.

| Age at date of admission. | | Order of merit. | | | | Number of demerits. | Sea-service in practice-ships. | | Order of merit. |
|---------------------------|---------|----------------------|-----------------------|---------------------|----------|---------------------|--------------------------------|-------|-----------------|
| Years. | Months. | English and history. | Algebra and geometry. | French and Spanish. | Conduct. | | Months. | Days. | |
| 17 | 3 | 25 | 21 | 27 | 20 | 48 | 2 | 20 | 24 |
| 18 | 0 | 42 | 44 | 39 | 44 | 82 | 5 | 5 | 41 |
| 16 | 10 | 28 | 43 | 4 | 36 | 70 | 5 | -- | 22 |
| 17 | 7 | 45 | 33 | 39 | 37 | 72 | 2 | 6 | 37 |
| 16 | 3 | 2 | 8 | 3 | 1 | 2 | 2 | 20 | 4* |
| 17 | 6 | 54 | 42 | 60 | 27 | 56 | 1 | 2 | 51 |
| 15 | 4 | 25 | 7 | 29 | 62 | 117 | 5 | 05 | 19 |
| 17 | 6 | 28 | 29 | 41 | 32 | 58 | 2 | 20 | 31 |
| 15 | 11 | 34 | 38 | 36 | 22 | 50 | 2 | 20 | 36 |
| 14 | 7 | 14 | 58 | 29 | 30 | 57 | 2 | 20 | 30 |
| 18 | 0 | 58 | 39 | 61 | 59 | 108 | 1 | 2 | 56 |
| 18 | 0 | 28 | 27 | 33 | 19 | 47 | 5 | 5 | 28 |
| 16 | 8 | 16 | 9 | 25 | 37 | 72 | 5 | 5 | 18 |
| 16 | 8 | 43 | 47 | 34 | 60 | 109 | 3 | 21 | 45 |
| 17 | 6 | 63 | 60 | 52 | 70 | 152 | 1 | 2 | 602 |
| 16 | 8 | 16 | 24 | 24 | 66 | 133 | 4 | 21 | 26 |
| 17 | 10 | 52 | 31 | 49 | 11 | 24 | 2 | 20 | 42 |
| 16 | 10 | 50 | 47 | 29 | 34 | 66 | 2 | 10 | 43 |
| 15 | 7 | 45 | 49 | 20 | 6 | 19 | 2 | 20 | 32 |
| 17 | 6 | 48 | 70 | 68 | 7 | 20 | -- | -- | 2 |
| 17 | 8 | 5 | 2 | 15 | 15 | 43 | 2 | 20 | 3* |
| 16 | 2 | 57 | 59 | 48 | 71 | 166 | 4 | 21 | 59 |
| 17 | 0 | 32 | 15 | 43 | 16 | 44 | 2 | 20 | 27 |
| 16 | 8 | 22 | 25 | 2 | 4 | 18 | 2 | 20 | 11 |
| 18 | 0 | 61 | 22 | 57 | 27 | 56 | 2 | 6 | 48 |
| 17 | 10 | 52 | 53 | 54 | 65 | 126 | 2 | 15 | 56 |
| 15 | 3 | a | a | a | 64 | 123 | 2 | 15 | a |
| 15 | 9 | 39 | 60 | 42 | 58 | 107 | 5 | 5 | 49 |
| 16 | 4 | 4 | 22 | 8 | 33 | 60 | 2 | 20 | 12 |
| 17 | 2 | 58 | 67 | 67 | 45 | 84 | 2 | 15 | 2 |
| 16 | 7 | 38 | 35 | 54 | 42 | 80 | 5 | 5 | 44 |
| 17 | 3 | 21 | 34 | 35 | 39 | 75 | 5 | 5 | 29 |
| 17 | 1 | 56 | 27 | 51 | 16 | 44 | 1 | 2 | 46 |
| 16 | 9 | 64 | 57 | 46 | 63 | 118 | 2 | 15 | b 58 |
| 17 | 1 | 44 | 55 | 65 | 46 | 85 | 1 | 6 | 55 |
| 14 | 8 | 35 | 51 | 36 | 69 | 148 | 2 | 6 | 47 |
| 16 | 4 | 35 | 55 | 27 | 39 | 75 | 5 | 5 | 38 |
| 17 | 7 | 13 | 31 | 22 | 35 | 67 | 2 | 20 | 23 |
| 17 | 11 | 28 | 45 | 45 | 18 | 46 | 5 | 5 | 40 |
| 18 | 0 | 12 | 11 | 1 | 47 | 88 | 2 | 15 | 6* |
| 16 | 9 | 48 | 60 | 61 | 50 | 92 | 1 | 2 | 54 |
| 16 | 8 | 16 | 19 | 14 | 9 | 22 | 2 | 15 | 16 |
| 16 | 8 | 50 | 54 | 54 | 49 | 90 | 2 | 20 | 53 |
| 16 | 10 | 11 | 13 | 12 | 56 | 98 | 5 | 5 | 9 |
| 17 | 8 | 70 | 12 | 69 | 30 | 57 | 5 | 5 | 52 |
| 16 | 10 | 55 | 67 | 23 | 27 | 56 | 2 | 6 | † |
| 16 | 7 | 16 | 16 | 16 | 23 | 51 | 2 | 6 | 15 |
| 16 | 4 | 33 | 9 | 9 | 20 | 48 | 2 | 17 | 13 |

| Order of merit. | Name. | State. | Date of admission. |
|-----------------|-----------------------------|----------------|--------------------|
| 25 | Reed, Milton Eugene | Iowa | Sept. 5, 1887 |
| 61 | Ruse, William James | Texas | Sept. 5, 1887 |
| † | Richards, George | Ohio | Sept. 12, 1887 |
| 2 | Ridgely, Randolph | Georgia | Sept. 6, 1887 |
| † | Robinson, Roby | Alabama | May 21, 1887 |
| *1 | Robison, John Keeler | Michigan | May 20, 1887 |
| 21 | Rowen, John Howard | Pennsylvania | Sept. 27, 1887 |
| 34 | Russell, Edward Gaston | Georgia | Sept. 7, 1887 |
| 35 | Senn, Thomas Jones | South Carolina | May 19, 1887 |
| 17 | Shepard, George Hugh | Wisconsin | Sept. 27, 1887 |
| 50 | Smith, Harry Eaton | Ohio | May 20, 1887 |
| *7 | Smith, Henry Gerrish | Ohio | Sept. 5, 1887 |
| 10 | Smith, Lucien Greathouse | Illinois | June 3, 1887 |
| 20 | Sparkman, Sullivan Thomas | South Carolina | Sept. 24, 1887 |
| 8 | Stearns, Clark Daniel | Michigan | Sept. 5, 1887 |
| 39 | Sypher, Jay Hale | Arizona | Sept. 5, 1887 |
| 60 | Theall, Elisha | New York | May 28, 1887 |
| † | Trickle, Edward | Illinois | May 20, 1887 |
| *5 | Watt, Richard Morgan | Pennsylvania | Sept. 22, 1887 |
| † | Wells, Chester | Pennsylvania | Sept. 10, 1887 |
| 14 | Willard, Arthur Lee | Missouri | Sept. 7, 1887 |
| 33 | Williams, Dion' | Ohio | July 16, 1887 |
| *2 | Zahm, Frank Baker | Pennsylvania | Sept. 5, 1887 |

b Resigned.

71 members—Continued.

| Age at date of admission. | | Order of merit. | | | | Number of demerits. | Sea-service in practice-ships. | | Order of merit. |
|---------------------------|---------|----------------------|-----------------------|---------------------|----------|---------------------|--------------------------------|-------|-----------------|
| Years. | Months. | English and history. | Algebra and Geometry. | French and Spanish. | Conduct. | | Months. | Days. | |
| 17 | 10 | 20 | 39 | 21 | 4 | 18 | 2 | 20 | 25 |
| 17 | 6 | 61 | 60 | 59 | 57 | 103 | 2 | 20 | 61 |
| 15 | 7 | 69 | 49 | 63 | 52 | 96 | 1 | 2 | † |
| 16 | 10 | 65 | 69 | 70 | 61 | 110 | -- | -- | 2 |
| 16 | 0 | 65 | 65 | 63 | 68 | 139 | 5 | 5 | † |
| 16 | 6 | 3 | 1 | 5 | 48 | 89 | 5 | 5 | 1* |
| 16 | 8 | 45 | 4 | 47 | 24 | 52 | 2 | 20 | 21 |
| 17 | 9 | 40 | 30 | 25 | 67 | 134 | 2 | 20 | 34 |
| 15 | 5 | 40 | 26 | 38 | 51 | 95 | 5 | 5 | 35 |
| 15 | 9 | 6 | 17 | 19 | 53 | 97 | 1 | 2 | 17 |
| 17 | 5 | 60 | 36 | 52 | 26 | 54 | 5 | 5 | 50 |
| 17 | 5 | 22 | 6 | 12 | 7 | 20 | 2 | 20 | 7* |
| 17 | 6 | 7 | 20 | 7 | 13 | 37 | 5 | 5 | 10 |
| 17 | 9 | 9 | 46 | 11 | 12 | 34 | 2 | 20 | 20 |
| 17 | 8 | 15 | 14 | 9 | 2 | 8 | 2 | 20 | 8 |
| 16 | 6 | 55 | 37 | 43 | 42 | 80 | 2 | 20 | 39 |
| 14 | 5 | 68 | 51 | 58 | 53 | 97 | 5 | 5 | 60 |
| 17 | 7 | 65 | 66 | 50 | 24 | 52 | 5 | 5 | † |
| 15 | 3 | 10 | 3 | 16 | 3 | 11 | 2 | 20 | 5* |
| 16 | 11 | 27 | 64 | 65 | 41 | 77 | 2 | 20 | † |
| 17 | 7 | 7 | 18 | 18 | 9 | 22 | 1 | 2 | 14 |
| 17 | 5 | 22 | 41 | 29 | 53 | 97 | 2 | 10 | 33 |
| 16 | 3 | 1 | 5 | 6 | 14 | 41 | 2 | 20 | 2* |

Fourth class—89 members.

| Name. | State. | Date of admission. | Age at date of admission. | | Sea-service in practice-ships. | |
|-------------------------------|----------------------|--------------------|---------------------------|---------|--------------------------------|-------|
| | | | Years. | Months. | Months. | Days. |
| Allen, Charles | Ohio | Mar. 15, 1888 | 17 | 11 | 2 | 20 |
| Arison, Edgar Emmett | Pennsylvania | May 18, 1888 | 15 | 2 | 2 | 20 |
| Baird, Lewis Conway | Indiana | Sept. 6, 1888 | 17 | 2 | | |
| Ball, Walter | New York | Sept. 6, 1888 | 16 | 1 | | |
| Bannon, Philip Michael | Maryland | May 21, 1888 | 16 | 2 | 2 | 20 |
| Beuret, John Dougal | Ohio | Sept. 7, 1888 | 17 | 7 | | |
| Bewley, Walter Portrum | Tennessee | Sept. 10, 1888 | 17 | 5 | | |
| Blakely, John Russell Young | Pennsylvania | Sept. 29, 1888 | 16 | 2 | | |
| Boltwood, Lucius | Kansas | April 4, 1888 | 17 | 11 | 2 | 20 |
| Borden, Thomas Sheppard | Louisiana | Sept. 25, 1888 | 16 | 6 | | |
| Breckinridge, Joseph Cabell | Kentucky | Sept. 5, 1888 | 16 | 6 | | |
| Campbell, Joseph Randolph | | Sept. 29, 1888 | 16 | 6 | | |
| Chadbourne, Ralph Collins | Maine | May 21, 1888 | 17 | 2 | 2 | 20 |
| Childs, Albert Perrin | Pennsylvania | Sept. 6, 1888 | 17 | 4 | | |
| Churchill, Frederick Augustus | Missouri | Sept. 7, 1888 | 17 | 10 | | |
| Coleman, James Samuel | Alabama | Sept. 6, 1888 | 16 | 3 | | |
| Crouk, Robert Kyle | Texas | Sept. 6, 1888 | 15 | 8 | | |
| Curlett, John | Virginia | May 15, 1888 | 18 | 0 | 2 | 20 |
| Davis, Austin Rockwell | Georgia | May 21, 1888 | 16 | 9 | 2 | 20 |
| Davison, Gregory Caldwell | Missouri | May 22, 1888 | 17 | 0 | 2 | 20 |
| Dawson, William Charles | Missouri | Sept. 6, 1888 | 17 | 5 | | |
| Day, George Calvin | Vermont | May 19, 1888 | 16 | 6 | 2 | 20 |
| Dannett, Stanley Pullen | Maine | May 19, 1888 | 15 | 11 | 2 | 20 |
| Douglas, Richard Spencer | Georgia | May 19, 1888 | 16 | 9 | 2 | 20 |
| Evans, Holden A | Florida | Sept. 5, 1888 | 16 | 9 | | |
| Ferguson, Homer Lenoir | North Carolina | May 21, 1888 | 15 | 2 | 2 | 20 |
| Gamble, Aaron Lichtenberger | Indiana | Sept. 5, 1888 | 15 | 10 | | |
| Garth, James Jefferson | Missouri | May 19, 1888 | 17 | 3 | 2 | 20 |
| Gibbs, Washington Dorsey | Mississippi | May 18, 1888 | 16 | 3 | 2 | 20 |
| Goodwin, Leonard | Pennsylvania | May 18, 1888 | 16 | 11 | 2 | 20 |
| Hasbrouck, Raymond De Lancy | Idaho Territory | Sept. 25, 1888 | 17 | 2 | | |
| Hines, John Fore | Kentucky | May 21, 1888 | 17 | 7 | 2 | 20 |
| Hoblitzelle, William Edward | Missouri | Sept. 6, 1888 | 17 | 1 | | |
| Hooker, James Clifton | Tennessee | June 18, 1888 | 16 | 10 | 2 | 10 |
| Huffington, Howard Williams | Pennsylvania | May 19, 1888 | 15 | 9 | 2 | 20 |
| Hussey, Charles Lincoln | New Hampshire | May 21, 1888 | 17 | 3 | 2 | 20 |
| Jennings, Joseph | Virginia | Sept. 7, 1888 | 16 | 7 | | |
| Jewell, Charles Theodore | At large | May 19, 1887 | 15 | 2 | 2 | 15 |
| Jones, Beriah Ellwood | Penn., At large | May 19, 1888 | 17 | 4 | | |
| Kaufman, Charles Louis | New York | May 18, 1888 | 16 | 2 | 2 | 20 |
| Kellogg, Edward Stanley | New York | Sept. 5, 1888 | 17 | 11 | | |
| Kilbourne, Joseph Coolidge | Ohio | May 21, 1888 | 16 | 10 | 2 | 20 |
| Lang, John Young | Pennsylvania | June 1, 1888 | 17 | 2 | 2 | 20 |
| Larkin, Rozier Bonaparte | Virginia | May 21, 1888 | 16 | 9 | 2 | 20 |
| Logan, William Vance | Indiana | Sept. 6, 1888 | 16 | 7 | | |
| Low, Theodore Henry | Connecticut | May 18, 1888 | 17 | 8 | 2 | 20 |
| Macklin, Charles Fearn | New York | Sept. 25, 1888 | 17 | 5 | | |
| Mallison, George | North Carolina | May 21, 1888 | 17 | 4 | 2 | 20 |
| Manion, Walter James | Louisiana | Sept. 24, 1888 | 15 | 9 | | |
| Mather, George Herbert | New Jersey | May 22, 1888 | 15 | 1 | 2 | 20 |
| McCormick, Benjamin Bernard | New York | May 19, 1888 | 15 | 3 | 2 | 20 |
| McDonald, Joseph Ezekiel | Illinois | Sept. 7, 1888 | 16 | 6 | | |
| McNamee, Luke | Kansas | Sept. 6, 1888 | 17 | 5 | | |
| McReavy, Herbert Ellsworth | Washington Territory | May 18, 1888 | 16 | 7 | 2 | 20 |
| Moses, Stanford Elwood | Georgia | Sept. 6, 1888 | 16 | 0 | | |
| Murray, William Lewis | New York | May 21, 1888 | 17 | 0 | 2 | 20 |
| Navitt, Rollin Roy | Missouri | Sept. 7, 1888 | 17 | 6 | | |

Fourth Class—89 members—Continued.

| Name. | State. | Date of admission. | Age at date of admission. | | Sea-service in practice-ships. | |
|---|---------------------|--------------------|---------------------------|---------|--------------------------------|-------|
| | | | Years. | Months. | Months. | Days. |
| Olmsted, Percy Napier | Oregon | May 21, 1888 | 16 | 10 | 2 | 20 |
| Payne, Fred Rounsville | New York | May 21, 1888 | 16 | 9 | 2 | 20 |
| Pollard, jr., Charles Teed | Texas | Sept. 25, 1888 | 16 | 0 | | |
| Pollock, Emmett Riddle | Illinois | May 18, 1888 | 15 | 5 | 2 | 20 |
| Porter, John Singleton | Tennessee | Sept. 25, 1888 | 15 | 8 | | |
| Powell, William Glasgow | New Jersey | May 18, 1888 | 16 | 8 | 2 | 20 |
| Pringle, Joel Roberts Poinsett | Illinois | Sept. 6, 1888 | 15 | 7 | | |
| Randolph, William Browne | New York | Sept. 6, 1888 | 17 | 0 | | |
| Rice, Arthur | Indiana | Sept. 7, 1888 | 17 | 3 | | |
| Ridgely, Randolph | Georgia | Sept. 6, 1888 | 16 | 11 | | |
| Rodney, Warren | Texas | Sept. 6, 1888 | 17 | 1 | | |
| Russell, jr., John Henry | At large | May 18, 1888 | 16 | 6 | 2 | 20 |
| Sawyer, Frederick Lewis | Illinois | Sept. 6, 1888 | 17 | 4 | | |
| Sawyer, Josiah Grigg | Illinois | May 19, 1888 | 16 | 11 | 2 | 20 |
| Sayers, Robert * | Virginia | May 19, 1888 | 17 | 10 | 2 | 20 |
| Scott, Guy Terrel | West Virginia | Sept. 5, 1888 | 14 | 6 | | |
| Shaw, Graham | Pennsylvania | Sept. 6, 1888 | 14 | 7 | | |
| Sheehan, James | New York | May 21, 1888 | 15 | 8 | 2 | 20 |
| Sparks, William Wiley | Kentucky | May 22, 1888 | 16 | 5 | 2 | 20 |
| Sterling, jr., Yates | Massachusetts | Sept. 6, 1888 | 16 | 4 | | |
| Stitt, Thomas Lutz | Indiana | Sept. 5, 1888 | 15 | 1 | | |
| Stopford, Frederick William | Massachusetts | May 19, 1888 | 15 | 7 | 2 | 20 |
| Swigart, Raymond Belt | Iowa | Sept. 5, 1888 | 17 | 11 | | |
| Symington, Powers | West Virginia | Sept. 7, 1888 | 15 | 11 | | |
| Thompson, John Haynes | California | Sept. 27, 1888 | 14 | 10 | | |
| Thompson, Leon Seymour | Ohio | May 21, 1888 | 14 | 0 | 2 | 20 |
| Trant, Frederick Augustus | Connecticut | May 19, 1888 | 16 | 11 | 2 | 20 |
| Vail, Thomas Holdup Stevens | New Mexico | Sept. 25, 1888 | 17 | 9 | | |
| Valentine, William Stanley | New York | Sept. 6, 1888 | 16 | 2 | | |
| Wager, George Peter | Texas | Sept. 6, 1888 | 17 | 0 | | |
| Waldron, Hugh | New York | Sept. 29, 1888 | 17 | 2 | | |
| Wedekind, George | New York | Sept. 5, 1888 | 16 | 6 | | |
| Zillman, Christian Charles Herman | Missouri | Sept. 27, 1888 | 17 | 8 | | |

* Resigned.

SUMMARY OF CADETS AT THE U. S. NAVAL ACADEMY.*November 1, 1888.*

| | |
|--------------------|------------|
| First class | 36 members |
| Second class | 43 members |
| Third class | 65 members |
| Fourth class | 89 members |
| Total | 233 |

APPOINTMENTS, DISCHARGES, RESIGNATIONS, DISMISSALS.

October 25, 1887, to October 25, 1888.

APPOINTED ENSIGNS, U. S. NAVY.

Naval Cadet George Breed, class of 1886.
Naval Cadet William Hannum Grubb Bullard, class of 1886.
Naval Cadet Webster Appleton Edgar, class of 1886.
Naval Cadet Joseph Wallace Oman, class of 1886.
Naval Cadet Philip Andrews, class of 1886.
Naval Cadet William Harry Foust, class of 1886.
Naval Cadet Harold Kemble Hines, class of 1886.
Naval Cadet Willard Louis Dodd, class of 1886.
Naval Cadet Harry Edgerton Rumsey, class of 1886.
Naval Cadet Ryland Dillard Tisdale, class of 1886.
Naval Cadet Samuel Melchoir Strite, class of 1886.
Naval Cadet Friend William Jenkins, class of 1886.
Naval Cadet George Franklin Cooper, class of 1886.

HONORABLY DISCHARGED.

| | |
|--|---------------|
| Naval Cadet William Howell Caldwell, class of 1886..... | June 30, 1888 |
| Naval Cadet Edwin Van Deusen Johnson, class of 1886..... | June 30, 1888 |
| Naval Cadet Edward Taylor Witherspoon, class of 1886 | June 30, 1888 |
| Naval Cadet Francis Adelbert Levis, class of 1886 | June 30, 1888 |
| Naval Cadet John Taylor McMillan, class of 1886..... | June 30, 1888 |
| Naval Cadet Cornelius Canfield Billings, class of 1886 | June 30, 1888 |
| Naval Cadet John Giveen Berry, class of 1886 | June 30, 1888 |
| Naval Cadet Samuel Black Winram, class of 1886..... | June 30, 1888 |
| Naval Cadet David May Young, class of 1886..... | June 30, 1888 |

AWAITING ACTION OF THE NAVY DEPARTMENT.

Naval Cadet Frederick Norton Kress, class of 1886.
Naval Cadet George Frederick Hawk, class of 1886.

RESIGNED.

| | |
|---|---------------|
| Naval Cadet Alexander Thompson, class of 1885..... | March 1, 1888 |
| Naval Cadet John Noble Griswold, class of 1886..... | May 19, 1888 |
| Naval Cadet Charles Allen, fourth class..... | Feb. 9, 1888 |

| | |
|---|---------------|
| Naval Cadet Edgar Emmett Arison, fourth class..... | Feb. 7, 1888 |
| Naval Cadet William Peter Baya, first class | Feb. 17, 1888 |
| Naval Cadet Joseph Cabell Breekinridge, fourth class..... | Jan. 24, 1888 |
| Naval Cadet Allen Merriam Cook, fourth class..... | Feb. 1, 1888 |
| Naval Cadet Charles Stanhope Cotton, fourth class | Feb. 3, 1888 |
| Naval Cadet John Curlett, fourth class | Feb. 1, 1888 |
| Naval Cadet Austin Rockwell Davis, fourth class | Feb. 6, 1888 |
| Naval Cadet Wiley Sims Embrey, third class..... | Oct. 9, 1888 |
| Naval Cadet Edward Gaines, second class | Jan. 19, 1888 |
| Naval Cadet George Fort Gibbs, third class..... | Oct. 17, 1888 |
| Naval Cadet Clarence Dyer Gilchrist, fourth class | June 29, 1888 |
| Naval Cadet Leonard Goodwin, fourth class | Feb. 9, 1888 |
| Naval Cadet Frank Holland, third class | June 29, 1888 |
| Naval Cadet Adrian Lorenzo Home, third class..... | Feb. 1, 1888 |
| Naval Cadet Beriah Ellwood Jones, fourth class..... | Feb. 6, 1888 |
| Naval Cadet Joseph Coolidge Kilbourne, fourth class | Feb. 6, 1888 |
| Naval Cadet William Lyeurgus Lancaster, fourth class..... | June 13, 1888 |
| Naval Cadet Rozier Bonaparte Larkin, fourth class | Feb. 6, 1888 |
| Naval Cadet Joseph Allen Leeds, fourth class..... | Feb. 4, 1888 |
| Naval Cadet Will Walker Leonard, third class..... | June 29, 1888 |
| Naval Cadet Frederick Nelson Lewis, second class..... | Feb. 3, 1888 |
| Naval Cadet Robeson Lea Low, fourth class | Feb. 6, 1888 |
| Naval Cadet Robert McKeage, fourth class | Feb. 6, 1888 |
| Naval Cadet Herbert Ellsworth McReavy, fourth class | Feb. 1, 1888 |
| Naval Cadet John Carey Malone, fourth class..... | Nov. 16, 1887 |
| Naval Cadet George Henry Mendell, jr., second class..... | Jan. 24, 1888 |
| Naval Cadet Clarence Sidney Merrill, fourth class..... | Nov. 28, 1887 |
| Naval Cadet Charles Kemp Murphey, fourth class | Feb. 9, 1888 |
| Naval Cadet Walter Smith Norton, third class | Oct. 13, 1888 |
| Naval Cadet George William Nott, fourth class | Feb. 1, 1888 |
| Naval Cadet Frank Theophilus Okell, third class..... | Feb. 1, 1888 |
| Naval Cadet Letcher Owsley, fourth class | Jan. 24, 1888 |
| Naval Cadet William Yulee Perry, third class | Dec. 28, 1887 |
| Naval Cadet Edwin Rufus Quimby, second class | Feb. 15, 1888 |
| Naval Cadet Henry Warren Raunos, third class..... | Nov. 18, 1887 |
| Naval Cadet Randolph Ridgely, fourth class | June 6, 1888 |
| Naval Cadet Maurice Sass, fourth class | Feb. 9, 1888 |
| Naval Cadet Robert Sayers, fourth class | Oct. 17, 1888 |
| Naval Cadet William Henry Seymour, second class..... | Jan. 28, 1888 |
| Naval Cadet John Lutmar Soule, third class | June 13, 1888 |
| Naval Cadet Van Dyke Todd, fourth class | Feb. 6, 1888 |
| Naval Cadet Cully Fleming Thomas, second class | April 4, 1888 |
| Naval Cadet George Creighton Ward, third class..... | June 13, 1888 |
| Naval Cadet William Lewis Waller, fourth class | Feb. 6, 1888 |
| Naval Cadet George Wedekind, fourth class..... | Feb. 6, 1888 |
| Naval Cadet Van Wyck Weaver, fourth class | Nov. 25, 1887 |
| Naval Cadet John Clinton Williams, fourth class | Feb. 1, 1888 |

DISMISSED.

| | |
|--|--------------|
| Naval Cadet Charles Voorhees Butler, third class | Feb. 7, 1888 |
|--|--------------|

DIED.

| | |
|--|----------------|
| Naval Cadet John William Dinges, second class..... | Sept. 19, 1888 |
|--|----------------|

MERIT-ROLLS FOR 1887-'88.

Merit-rolls, made out annually for each class, show the proficiency of the cadets in each branch of study. The numbers given in the table, page 63, showing the relative weight of the different branches, are used as coefficients; the final mark in each branch (on a scale of 4) being multiplied by the number assigned to that branch. The sum of the products, after adding the multiple for conduct, is the final mark of the cadet for the year.

In the case of cadets who take an advanced course in any branch, the final mark in that branch is determined by adding to the final mark received in the required course one-fifth of the amount by which the final mark in the advanced course exceeds 2.50.

In the graduating merit-roll, the final standing for the course is determined by the sum of the yearly marks.

"Cadets who attain 85 per cent. of the multiple in any year shall be distinguished by a star affixed to their names on the merit-rolls."—(Regulations U. S. Naval Academy, § 150.)

The diplomas of cadets whose final marks on the graduating merit-roll are not less than 85 per cent. of the maximum, read "passed with distinction;" those whose final marks are between 74 per cent. and 85 per cent. of the maximum read "passed with credit;" and those whose final marks are between 62½ per cent. and 74 per cent. of the maximum read "passed."

| Order of merit. | NAME. | Seamanship and naval tactics. | | | | | Ordnance and gunnery. | | Steam engineering. | | Navigation. | | Modern languages. | | (Final reports. | | Aggregate for examination. | | General aggregate for four years. | | Final aggregate. | | ASSIGNMENT. |
|-----------------|------------------------------------|-------------------------------|-------|-------|-------|-------|-----------------------|----|--------------------|----|-------------|-----|-------------------|--|-----------------|--|----------------------------|--|-----------------------------------|--|------------------|-----------------------|-------------|
| | | 56 | 44 | 44 | 44 | 44 | 44 | 44 | 28 | 24 | 240 | 750 | 1000 | | | | | | | | | | |
| | Maxima ----- | | | | | | | | | | | | | | | | | | | | | | |
| * 1 | KRESS, FREDERICK NORTON----- | 44.80 | 37.07 | 29.92 | 35.75 | 26.60 | | | | | | | | | | | | | | | | Not disposed of. | |
| 2 | Breed, George----- | 44.52 | 40.04 | 35.31 | 37.95 | 24.50 | | | | | | | | | | | | | | | | Ensign. | |
| 3 | Bullard, William Hannum Grubb----- | 41.30 | 38.06 | 27.72 | 30.58 | 19.18 | | | | | | | | | | | | | | | | Ensign. | |
| 4 | Edgar, Webster Appleton----- | 43.12 | 40.48 | 24.09 | 30.69 | 30.95 | | | | | | | | | | | | | | | | Ensign. | |
| 5 | Onan, Joseph Wallace----- | 44.24 | 37.40 | 32.56 | 30.80 | 20.65 | | | | | | | | | | | | | | | | Ensign. | |
| 6 | Andrews, Philip----- | 45.22 | 39.49 | 28.27 | 33.88 | 21.14 | | | | | | | | | | | | | | | | Ensign. | |
| 7 | Foust, William Harry----- | 42.00 | 38.94 | 28.60 | 31.13 | 23.63 | | | | | | | | | | | | | | | | Ensign. | |
| P 8 | Caldwell, William Howell----- | 39.76 | 36.52 | 33.00 | 33.11 | 22.33 | | | | | | | | | | | | | | | | Honorably discharged. | |
| 9 | Hines, Harold Kemble----- | 44.94 | 34.65 | 29.26 | 37.40 | 27.86 | | | | | | | | | | | | | | | | Ensign. | |
| 10 | Dodd, Willard Louis----- | 40.04 | 34.87 | 29.24 | 28.60 | 19.35 | | | | | | | | | | | | | | | | Ensign. | |
| 11 | Rumsey, Harry Edgerton----- | 46.76 | 37.62 | 29.81 | 37.84 | 23.45 | | | | | | | | | | | | | | | | Ensign. | |
| 12 | Tisdale, Ryland Dillard----- | 35.70 | 40.15 | 21.89 | 30.69 | 21.21 | | | | | | | | | | | | | | | | Ensign. | |
| 13 | Strite, Samuel Melchoir----- | 36.82 | 38.72 | 24.53 | 29.48 | 19.11 | | | | | | | | | | | | | | | | Ensign. | |
| 14 | Jenkins, Friend William----- | 30.80 | 37.40 | 32.23 | 33.77 | 22.96 | | | | | | | | | | | | | | | | Ensign. | |
| 15 | Cooper, George Franklin----- | 42.14 | 34.65 | 21.45 | 27.50 | 25.69 | | | | | | | | | | | | | | | | Ensign. | |
| 16 | Hawk, George Frederick----- | 38.78 | 34.21 | 30.69 | 33.99 | 21.84 | | | | | | | | | | | | | | | | Not disposed of. | |
| 17 | Johnson, Edwin Van Deusen----- | 44.94 | 35.75 | 23.21 | 28.40 | 18.34 | | | | | | | | | | | | | | | | Honorably discharged. | |
| 18 | Witherspoon, Edward Taylor----- | 35.28 | 36.63 | 20.90 | 28.82 | 21.70 | | | | | | | | | | | | | | | | Honorably discharged. | |
| 19 | Levis, Francis Adelbert----- | 35.00 | 31.35 | 24.09 | 27.61 | 18.76 | | | | | | | | | | | | | | | | Honorably discharged. | |
| 20 | McMillan, John Taylor----- | 42.00 | 33.00 | 25.08 | 33.01 | 21.56 | | | | | | | | | | | | | | | | Honorably discharged. | |
| P 21 | Billings, Cornelius Canfield----- | 37.52 | 34.21 | 22.66 | 27.94 | 18.48 | | | | | | | | | | | | | | | | Honorably discharged. | |
| 22 | Berry, John Given----- | 42.00 | 28.93 | 25.74 | 27.61 | 20.44 | | | | | | | | | | | | | | | | Honorably discharged. | |
| 23 | Winram, Samuel Black----- | 37.24 | 33.11 | 23.10 | 26.73 | 18.90 | | | | | | | | | | | | | | | | Honorably discharged. | |
| 24 | Young, David May----- | 36.68 | 32.01 | 20.13 | 26.18 | 22.54 | | | | | | | | | | | | | | | | Honorably discharged. | |

Merit-roll of the naval cadets of the first class.—Annual examination, June, 1888.

| Order of merit. | NAME. | Astronomy, navigation, and surveying. | Least squares, and strength of materials. | Ordnance and gunnery. | Seamanship, ship-building, and naval tactics. | Practical seamanship. | Practical instruction in steam engineering. | Physiology and hygiene. | Conduct. | Aggregate for fourth year. | Aggregate for third year. | Aggregate for second year. | Aggregate for first year. | General aggregate for four years. |
|-----------------|-----------------------------|---------------------------------------|---|-----------------------|---|-----------------------|---|-------------------------|----------|----------------------------|---------------------------|----------------------------|---------------------------|-----------------------------------|
| | | 76 | 20 | 76 | 72 | 20 | 8 | 12 | 20 | 304 | 228 | 152 | 76 | 760 |
| | Maxima ----- | | | | | | | | | | | | | |
| *1 | William N. Vansant ----- | 69.16 | 19.15 | 73.15 | 65.88 | 17.95 | 6.20 | 11.16 | 17.07 | *279.72 | 212.69 | 139.29 | 65.28 | 696.98 |
| *2 | Frank Marble ----- | 63.65 | 18.30 | 67.83 | 54.72 | 17.95 | 6.16 | 9.90 | 16.07 | 254.58 | 204.71 | 141.03 | 69.95 | 670.27 |
| b3 | Curtis D. Wilbur ----- | 59.66 | 16.90 | 63.55 | 57.06 | 17.10 | 6.44 | 9.72 | 19.33 | 231.76 | 199.12 | 124.70 | 61.27 | 636.96 |
| b4 | Ashley H. Robertson ----- | 59.66 | 16.15 | 63.68 | 59.40 | 16.20 | 6.52 | 8.91 | 13.07 | 242.99 | 189.12 | 129.48 | 61.33 | 622.92 |
| b5 | Carlo B. Brittain ----- | 58.90 | 16.55 | 63.17 | 59.94 | 17.60 | 6.68 | 9.06 | 20.00 | 253.90 | 175.55 | 118.97 | 60.96 | 609.38 |
| b6 | Casey B. Morgan ----- | 57.38 | 16.05 | 63.65 | 58.86 | 16.25 | 6.16 | 9.60 | 10.80 | 238.75 | 183.07 | 124.23 | 62.84 | 608.89 |
| b7 | William M. Crose ----- | 56.24 | 13.85 | 58.71 | 55.62 | 17.05 | 5.88 | 8.91 | 15.73 | 231.99 | 170.96 | 126.59 | 62.59 | 592.39 |
| b8 | Marcus L. Miller ----- | 54.34 | 13.90 | 56.24 | 52.56 | 14.65 | 6.04 | 7.95 | 16.40 | 222.08 | 175.29 | 126.85 | 66.62 | 590.58 |
| b9 | George N. Hayward ----- | 53.39 | 14.05 | 61.75 | 57.06 | 16.85 | 5.68 | 9.51 | 2.40 | 220.69 | 175.83 | 127.68 | 65.69 | 589.89 |
| b10 | Oscar W. Koester ----- | 56.24 | 15.75 | 60.61 | 57.60 | 16.80 | 6.20 | 8.13 | 18.27 | 239.33 | 171.57 | 116.97 | 61.23 | 589.10 |
| b11 | Delworth W. Bewick ----- | 54.72 | 15.25 | 56.05 | 54.54 | 15.50 | 6.12 | 8.16 | 19.33 | 229.64 | 169.71 | 123.14 | 63.97 | 586.46 |
| b12 | John F. Hubbard ----- | 55.67 | 15.20 | 59.09 | 55.08 | 16.80 | 5.68 | 10.56 | 11.07 | 229.15 | 164.06 | 126.87 | 65.25 | 585.33 |
| b13 | John A. Lejeune ----- | 55.67 | 15.45 | 59.09 | 53.64 | 14.80 | 5.88 | 9.42 | 14.67 | 228.62 | 168.52 | 120.54 | 66.17 | 583.85 |
| b14 | Samuel S. Robison ----- | 55.10 | 16.20 | 59.85 | 52.02 | 16.85 | 6.60 | 8.55 | 17.60 | 232.77 | 172.18 | 119.17 | 57.92 | 582.04 |
| b15 | Lloyd H. Chandler ----- | 55.48 | 13.70 | 61.56 | 63.36 | 17.80 | 6.52 | 10.92 | 19.20 | 248.54 | 166.24 | 109.80 | 55.97 | 580.55 |
| b16 | Armin Hartrath ----- | 56.81 | 16.75 | 61.75 | 54.36 | 15.50 | 5.96 | 9.99 | 0.93 | 222.05 | 168.06 | 122.18 | 65.07 | 577.36 |
| b17 | Clarence L. A. Ingate ----- | 55.29 | 15.00 | 61.37 | 53.64 | 15.95 | 5.92 | 8.55 | 19.07 | 234.79 | 157.40 | 120.46 | 62.44 | 575.09 |
| b18 | Henry K. Benham ----- | 53.39 | 15.40 | 57.00 | 50.22 | 14.95 | 5.96 | 8.67 | 16.13 | 221.72 | 172.14 | 118.40 | 61.15 | 573.41 |
| b19 | Ernest E. West ----- | 53.58 | 15.50 | 55.67 | 50.22 | 15.00 | 6.36 | 8.40 | 15.60 | 220.33 | 173.42 | 117.78 | 55.04 | 566.57 |
| b20 | Charles F. Hughes ----- | 54.91 | 13.65 | 60.04 | 55.80 | 17.05 | 6.36 | 9.03 | 18.93 | 235.77 | 165.04 | 112.37 | 52.76 | 565.94 |
| 21 | Albert L. Norton ----- | 51.49 | 14.90 | 54.34 | 52.20 | 15.65 | 6.16 | 9.84 | 17.87 | 222.45 | 162.93 | 115.62 | 59.87 | 560.87 |
| 22 | Leroy A. Stafford ----- | 61.94 | 16.95 | 63.65 | 49.14 | 15.65 | 6.04 | 8.10 | 13.07 | 234.54 | 161.37 | 106.71 | 57.21 | 559.83 |
| 23 | Samuel J. Aiken ----- | 56.24 | 14.85 | 56.43 | 51.48 | 16.00 | 6.36 | 7.98 | 19.33 | 228.67 | 160.52 | 111.04 | 55.15 | 555.38 |
| 24 | Eli K. Cole ----- | 54.72 | 13.80 | 56.43 | 50.94 | 15.60 | 5.96 | 8.34 | 16.13 | 221.92 | 153.96 | 113.89 | 57.14 | 546.91 |
| 25 | Louis J. Anderson ----- | 50.73 | 13.10 | 54.34 | 49.14 | 14.75 | 6.44 | 7.77 | 6.80 | 203.07 | 159.99 | 117.53 | 59.34 | 539.93 |
| 26 | William B. Franklin ----- | 51.11 | 14.65 | 53.96 | 50.22 | 15.70 | 5.76 | 7.98 | 12.27 | 211.65 | 158.70 | 107.60 | 56.08 | 534.03 |

| | | | | | | | | | | | | | | |
|----|--------------------------|-------|-------|-------|-------|-------|------|------|-------|--------|--------|--------|-------|--------|
| 27 | James H. Reid | 49.78 | 13.80 | 54.72 | 46.62 | 14.65 | 5.52 | 7.65 | 16.27 | 209.01 | 163.64 | 105.26 | 55.33 | 533.24 |
| 28 | Stuart W. Cramer | 51.49 | 14.10 | 54.53 | 45.90 | 15.00 | 5.76 | 8.13 | 16.00 | 210.91 | 155.62 | 111.09 | 55.17 | 532.79 |
| 29 | Herman O. Stickney | 51.30 | 13.05 | 51.30 | 48.42 | 14.90 | 6.44 | 8.01 | 18.00 | 211.42 | 152.85 | 112.01 | 55.72 | 532.00 |
| 30 | Edward L. Beach | 50.35 | 14.75 | 51.49 | 46.98 | 14.35 | 5.92 | 7.95 | 14.40 | 206.19 | 156.10 | 105.53 | 57.21 | 525.03 |
| 31 | Frederick B. Bassett, jr | 51.11 | 13.65 | 50.54 | 45.18 | 15.30 | 5.60 | 8.25 | 12.27 | 201.90 | 147.67 | 113.63 | 56.08 | 519.28 |
| 32 | Herbert G. Gates | 49.21 | 13.15 | 54.15 | 50.40 | 15.05 | 5.76 | 8.31 | 8.13 | 204.16 | 154.79 | 102.32 | 56.37 | 517.64 |
| 33 | Moses D. Monroe | 51.11 | 12.95 | 50.53 | 47.70 | 14.15 | 5.96 | 7.92 | 7.47 | 197.61 | 143.34 | 108.24 | 61.56 | 510.75 |
| 34 | Henry A. Wiley | 49.21 | 14.10 | 49.97 | 46.98 | 15.65 | 5.92 | 7.83 | 15.47 | 205.13 | 153.07 | 100.53 | 51.29 | 510.02 |
| 35 | Theodore P. Kane | 51.11 | 14.10 | 54.72 | 53.10 | 16.00 | 6.04 | 7.77 | 7.73 | 210.57 | 149.21 | 97.94 | 51.39 | 509.11 |

* Completed four years' course "with distinction."

b Completed four years' course "with credit."

Merit-roll of naval cadets, second class, 37 members, at the annual examination, June, 1888.

| Order of annual merit. | NAME. | Mechanical drawing. | International law. | Calculus and mechanics. | Sound, light, and heat. | Electricity and magnetism. | Steam machinery, marine engines, and boilers. | Conduct. | Aggregate. |
|------------------------|---------------------------------|---------------------|--------------------|-------------------------|-------------------------|----------------------------|---|----------|------------|
| | Maxima ----- | 16 | 16 | 56 | 28 | 28 | 72 | 12 | 228 |
| *1 | Richmond P. Hobson ----- | 12.00 | 13.84 | 52.08 | 23.17 | 24.64 | 61.92 | 8.58 | 196.23 |
| 2 | George H. Rock----- | 12.96 | 14.00 | 47.46 | 23.73 | 24.71 | 58.68 | 11.22 | 192.76 |
| 3 | Arthur B. Hoff----- | 12.80 | 13.84 | 48.86 | 21.77 | 23.59 | 58.14 | 8.64 | 187.64 |
| 4 | Nathan C. Twining----- | 11.96 | 14.60 | 47.88 | 21.91 | 23.10 | 57.42 | 10.02 | 186.89 |
| 5 | Louis McC. Nulton----- | 14.68 | 12.52 | 43.54 | 20.09 | 22.12 | 58.86 | 9.90 | 181.71 |
| 6 | Benjamin F. Hutchison----- | 12.12 | 13.52 | 44.94 | 20.65 | 23.66 | 52.74 | 11.04 | 178.67 |
| 7 | George W. Danforth----- | 12.92 | 12.96 | 43.26 | 21.21 | 21.63 | 56.16 | 8.70 | 176.84 |
| 8 | William V. Pratt----- | 12.72 | 13.44 | 43.54 | 20.79 | 21.14 | 54.54 | 7.26 | 173.43 |
| 9 | Sumner E. Kittelle----- | 14.44 | 14.60 | 39.20 | 20.65 | 20.58 | 52.38 | 11.22 | 173.07 |
| 10 | John B. Patton----- | 12.00 | 11.40 | 42.56 | 18.13 | 19.74 | 58.14 | 8.34 | 170.31 |
| 11 | George R. Marvell----- | 14.76 | 12.52 | 44.80 | 19.46 | 19.25 | 47.88 | 11.46 | 170.13 |
| 12 | Bertram S. Neumann----- | 13.72 | 11.92 | 39.48 | 18.76 | 19.74 | 54.90 | 10.80 | 169.32 |
| 13 | George B. Bradshaw----- | 10.36 | 12.00 | 45.64 | 19.11 | 20.79 | 54.18 | 4.80 | 166.88 |
| 14 | Lewis C. Lucas----- | 13.36 | 13.68 | 36.96 | 19.60 | 19.88 | 55.98 | 7.38 | 166.84 |
| 15 | Edward R. Lowndes----- | 14.88 | 13.00 | 41.30 | 18.90 | 20.37 | 54.00 | 4.38 | 166.83 |
| 16 | William D. MacDougall----- | 13.84 | 12.88 | 37.94 | 19.53 | 18.90 | 53.64 | 9.78 | 166.51 |
| 17 | Louis A. Kaiser----- | 11.76 | 11.72 | 44.94 | 17.50 | 19.81 | 54.00 | 5.94 | 165.67 |
| 18 | Louis R. de Steiguer----- | 11.80 | 12.40 | 42.28 | 18.41 | 18.27 | 50.40 | 9.48 | 163.04 |
| 19 | Philip Williams----- | 11.64 | 12.68 | 45.36 | 17.71 | 18.76 | 49.50 | 4.20 | 159.85 |
| 20 | Charles G. Long----- | 12.60 | 12.04 | 39.20 | 18.20 | 19.11 | 46.80 | 10.26 | 158.21 |
| 21 | Cleland N. Offley----- | 12.00 | 12.44 | 36.82 | 18.76 | 19.11 | 50.76 | 7.62 | 157.51 |
| 22 | William C. Cole----- | 11.80 | 13.20 | 41.86 | 18.62 | 19.46 | 47.34 | 4.92 | 157.20 |
| 23 | Warren J. Terhune----- | 10.80 | 13.60 | 38.36 | 20.58 | 19.60 | 48.42 | 5.46 | 156.82 |
| 24 | George G. Mitchell----- | 12.04 | 10.80 | 40.88 | 17.64 | 18.83 | 46.80 | 9.12 | 156.11 |
| 25 | William W. Phelps----- | 12.88 | 12.20 | 37.38 | 17.50 | 19.11 | 49.86 | 6.42 | 155.35 |
| 26 | Thomas P. Magruder----- | 11.64 | 12.60 | 38.50 | 18.20 | 18.06 | 46.62 | 6.84 | 152.46 |
| 27 | Robert E. Carney----- | 12.12 | 12.48 | 36.82 | 18.20 | 19.18 | 49.50 | 3.60 | 151.90 |
| 28 | Ben. H. Fuller----- | 12.92 | 12.24 | 40.88 | 17.57 | 19.18 | 46.98 | 1.44 | 151.21 |
| 29 | Charles A. Brand----- | 11.68 | 12.40 | 37.94 | 17.57 | 18.62 | 45.00 | 7.50 | 150.71 |
| 30 | William K. Harrison----- | 11.20 | 11.88 | 35.00 | 17.50 | 19.18 | 46.62 | 9.30 | 150.68 |
| 31 | George L. Fernier----- | 12.92 | 10.36 | 35.70 | 17.50 | 17.92 | 45.00 | 9.54 | 148.94 |
| 32 | Robert McM. Dutton----- | 12.00 | 12.64 | 36.68 | 17.15 | 18.13 | 46.44 | 5.88 | 148.92 |
| 33 | Julius Prochazka----- | 10.80 | 10.84 | 36.54 | 17.57 | 18.48 | 46.08 | 6.90 | 147.21 |
| 34 | Ernest B. Anderson----- | 10.08 | 11.00 | 35.84 | 17.85 | 17.92 | 45.00 | 8.70 | 146.39 |
| † | George W. Kirk----- | 12.24 | 11.64 | 33.32 | 17.78 | 18.62 | 45.54 | 7.68 | 146.82 |
| † | Henry L. Woodward----- | 10.24 | 13.04 | 35.00 | 18.20 | 17.01 | 43.74 | 4.14 | 141.37 |
| † | Louis L. Driggs----- | 11.84 | 12.64 | 34.02 | 16.31 | 17.64 | 45.36 | 1.20 | 139.01 |

Merit-roll of naval cadets, third class, 48 members, at the annual examination, June, 1888.

| Order of annual merit. | NAME. | Trigonometry analytical geometry, and descriptive geometry. | Chemistry. | English, history and the constitution. | French and Spanish. | Mechanical drawing. | Conduct. | Aggregate. |
|------------------------|---|---|------------|--|---------------------|---------------------|----------|------------|
| | Maxima----- | 48 | 24 | 24 | 24 | 24 | 8 | 152 |
| *1 | Thomas F. Ruhm----- | 46.08 | 21.48 | 21.78 | 21.90 | 21.06 | 5.60 | 137.90 |
| *2 | Lawrence Spear----- | 44.04 | 20.10 | 21.12 | 20.58 | 20.76 | 5.63 | 132.23 |
| *3 | Noah T. Coleman----- | 44.76 | 20.52 | 21.30 | 19.50 | 22.26 | 2.88 | 131.22 |
| *4 | Henry J. Ziegemeier----- | 44.28 | 18.48 | 20.94 | 20.88 | 19.32 | 7.07 | 130.97 |
| 5 | Jehu V. Chase----- | 42.36 | 19.38 | 18.78 | 20.46 | 21.12 | 4.13 | 126.23 |
| 6 | Cleland Davis----- | 40.08 | 19.50 | 19.98 | 20.22 | 22.14 | 4.19 | 126.11 |
| 7 | Frank H. Schofield----- | 37.80 | 20.28 | 21.00 | 19.14 | 20.88 | 6.53 | 125.63 |
| 8 | Matt. H. Signor----- | 44.28 | 19.86 | 18.18 | 19.44 | 19.56 | 0.64 | 121.96 |
| 9 | William H. Buck----- | 37.92 | 18.36 | 20.94 | 18.60 | 19.80 | 5.47 | 121.09 |
| 10 | George W. Williams----- | 42.36 | 19.38 | 19.92 | 18.72 | 18.78 | 1.02 | 120.18 |
| 11 | John M. Blankenship----- | 35.28 | 16.92 | 19.38 | 17.58 | 22.08 | 6.85 | 118.09 |
| 12 | Alonzo Gartley----- | 38.64 | 17.16 | 18.96 | 16.68 | 23.22 | 3.14 | 117.80 |
| 13 | Charles T. Vogelgesang----- | 34.80 | 17.34 | 19.74 | 21.60 | 16.80 | 7.14 | 117.42 |
| 14 | Charles B. McVay----- | 38.52 | 16.44 | 18.60 | 19.38 | 18.18 | 6.21 | 117.33 |
| 15 | William A. Snow----- | 32.28 | 15.78 | 20.16 | 18.66 | 21.48 | 6.24 | 114.60 |
| 16 | Urban T. Holmes----- | 37.68 | 17.52 | 18.12 | 18.66 | 19.44 | 3.10 | 114.52 |
| 17 | Claude Bailey----- | 36.36 | 16.86 | 18.00 | 17.82 | 18.30 | 5.50 | 112.84 |
| 18 | Lay H. Everhart----- | 40.20 | 16.74 | 15.78 | 16.02 | 22.62 | 0.96 | 112.32 |
| 19 | Montgomery M. Taylor----- | 34.08 | 17.94 | 19.14 | 19.74 | 20.40 | 0.80 | 112.10 |
| 20 | William A. Moffett----- | 32.16 | 16.44 | 19.08 | 18.30 | 20.34 | 5.50 | 111.82 |
| 21 | Lawrence H. Moses----- | 39.00 | 17.04 | 17.88 | 21.54 | 15.06 | 0.16 | 110.68 |
| 22 | Albertus W. Catlin----- | 36.24 | 17.10 | 17.10 | 16.98 | 18.36 | 3.55 | 109.33 |
| 23 | Claude B. Price----- | 30.60 | 18.54 | 19.08 | 16.74 | 18.30 | 5.89 | 109.15 |
| 24 | Franklin S. Rising----- | 34.92 | 16.80 | 17.16 | 19.14 | 16.98 | 3.42 | 108.42 |
| 25 | Thomas C. Treadwell----- | 32.16 | 18.12 | 19.08 | 17.58 | 16.68 | 4.29 | 107.91 |
| 26 | Lucius A. Bostwick----- | 23.24 | 18.42 | 19.14 | 15.00 | 19.32 | 2.46 | 107.58 |
| 27 | John H. Dayton----- | 34.32 | 17.94 | 19.38 | 16.02 | 15.18 | 3.52 | 107.26 |
| 28 | Cyrus S. Radford----- | 33.36 | 15.42 | 16.32 | 15.66 | 21.54 | 4.86 | 107.16 |
| 29 | Charles O. Bond----- | 32.76 | 15.78 | 17.70 | 16.08 | 19.74 | 4.96 | 107.02 |
| 30 | Franklin B. Sullivan----- | 34.44 | 16.02 | 18.00 | 16.68 | 19.50 | 0.83 | 105.47 |
| 31 | John R. Edie----- | 30.48 | 15.12 | 15.66 | 19.50 | 20.04 | 4.61 | 105.41 |
| 32 | Wendell C. Neville----- | 31.32 | 15.06 | 16.80 | 17.52 | 18.78 | 4.19 | 103.67 |
| 33 | John W. Dinges ¹ ----- | 32.64 | 17.34 | 17.28 | 15.00 | 15.60 | 5.60 | 103.46 |
| 34 | Doctor E. Dismukes----- | 32.64 | 16.02 | 17.16 | 15.84 | 18.18 | 1.95 | 101.79 |
| 35 | William T. Saunders----- | 32.64 | 15.06 | 16.74 | 15.72 | 17.46 | 3.39 | 101.01 |
| 36 | Eugene D. Ryan----- | 31.68 | 15.00 | 17.58 | 17.04 | 16.62 | 2.98 | 100.90 |
| 37 | Erwin H. McDonald----- | 31.08 | 15.18 | 18.54 | 16.44 | 15.90 | 1.92 | 99.06 |
| 38 | Julius L. Latimer----- | 31.44 | 16.74 | 17.64 | 16.14 | 15.00 | 0.99 | 97.95 |
| † | George F. Gibbs----- | 31.32 | 14.46 | 17.64 | 23.10 | 22.38 | 1.70 | 110.60 |
| † | Henry S. Ritter----- | 35.88 | 14.82 | 19.20 | 15.78 | 16.62 | 7.30 | 109.60 |
| | Frank H. Kochersperger ² ----- | 29.16 | 15.84 | 17.52 | 16.02 | 23.16 | 5.31 | 107.01 |
| | Frederick L. Eaton ² ----- | 31.44 | 14.76 | 19.44 | 17.46 | 16.14 | 1.38 | 100.62 |
| ‡ | Frank Holland----- | 29.76 | 15.66 | 17.28 | 14.40 | 19.74 | 1.79 | 98.63 |
| † | John P. J. Ryan----- | 30.84 | 14.52 | 17.04 | 15.90 | 16.80 | 2.75 | 97.85 |
| 39 | Frederick W. Ballschmider----- | 30.48 | 15.18 | 17.10 | 14.88 | 17.58 | 2.62 | 97.84 |
| ‡ | George C. Ward----- | 28.68 | 12.48 | 15.72 | 15.66 | 18.48 | 0.35 | 91.37 |
| ‡ | John L. Soule----- | 25.80 | 14.88 | 17.10 | 15.18 | 15.42 | 2.46 | 90.84 |
| a | Walter S. Norton----- | a | | 17.70 | a | a | 5.50 | |

¹ Died September 19, 1888.

² Subject to examination.

Merit-roll of naval cadets, fourth class, 71 members, at the annual examination, June, 1888.

| Order of merit. | NAME. | English and his- tory. | Algebra and ge- ometry. | French and Span- ish. | Conduct. | Aggregate. |
|-----------------|-----------------------------|---------------------------|----------------------------|--------------------------|----------|------------|
| | Maxima----- | 24 | 24 | 24 | 4 | 76 |
| *1 | John K. Robison ----- | 21.24 | 24.48 | 22.62 | 2.81 | 71.15 |
| *2 | Frank B. Zahm ----- | 21.66 | 22.62 | 22.38 | 3.45 | 70.11 |
| *3 | Horatio G. Gilmor ----- | 20.76 | 24.00 | 21.18 | 3.43 | 69.37 |
| *4 | Reginald R. Belknap ----- | 21.54 | 20.64 | 23.04 | 3.97 | 69.19 |
| *5 | Richard M. Watt ----- | 20.40 | 23.16 | 21.12 | 3.85 | 68.53 |
| *6 | Albert S. McLemore ----- | 20.10 | 22.28 | 24.48 | 2.83 | 67.69 |
| *7 | Henry G. Smith ----- | 18.84 | 20.50 | 21.42 | 3.73 | 66.49 |
| 8 | Clark D. Stearns ----- | 19.50 | 19.26 | 21.84 | 3.89 | 64.49 |
| 9 | Daniel B. Ninde ----- | 20.34 | 19.98 | 21.42 | 2.69 | 64.43 |
| 10 | Lucien G. Smith ----- | 20.58 | 18.12 | 22.20 | 3.51 | 64.41 |
| 11 | Henry H. Hough ----- | 18.84 | 17.70 | 24.00 | 3.76 | 64.30 |
| 12 | Henry C. Kuenzli ----- | 20.94 | 18.00 | 22.08 | 3.20 | 64.22 |
| 13 | Charles F. Preston ----- | 17.88 | 20.58 | 21.84 | 3.36 | 63.66 |
| 14 | Arthur L. Willard ----- | 20.58 | 18.36 | 20.46 | 3.71 | 63.11 |
| 15 | Edwin T. Pollock ----- | 19.32 | 18.96 | 21.12 | 3.32 | 62.72 |
| 16 | John G. F. Moale ----- | 19.32 | 18.24 | 21.36 | 3.71 | 62.63 |
| 17 | George H. Shepard ----- | 20.70 | 18.90 | 19.98 | 2.71 | 62.29 |
| 18 | Harley H. Christy ----- | 19.32 | 20.58 | 18.84 | 3.04 | 61.78 |
| 19 | DeWitt Blamer ----- | 18.78 | 22.20 | 18.30 | 2.44 | 61.72 |
| 20 | Sullivan T. Sparkman ----- | 20.52 | 15.72 | 21.66 | 3.55 | 61.45 |
| 21 | John H. Rowen ----- | 17.04 | 22.92 | 17.04 | 3.31 | 60.31 |
| 22 | Archibald Anthon ----- | 18.06 | 16.02 | 22.92 | 3.07 | 60.07 |
| 23 | William H. McGrann ----- | 20.04 | 17.04 | 19.26 | 3.11 | 59.45 |
| 24 | David V. H. Allen ----- | 18.78 | 18.06 | 18.60 | 3.36 | 58.80 |
| 25 | Milton E. Reed ----- | 19.14 | 16.26 | 19.56 | 3.76 | 58.72 |
| 26 | Charles R. Emrich ----- | 19.22 | 17.94 | 19.14 | 2.23 | 58.63 |
| 27 | Renwick J. Hartung ----- | 17.94 | 19.08 | 17.34 | 3.41 | 57.77 |
| 28 | James F. Carter ----- | 18.06 | 17.34 | 18.24 | 3.37 | 57.01 |
| 29 | George W. Laws ----- | 18.96 | 16.74 | 18.06 | 3.00 | 56.76 |
| 30 | Henry H. Caldwell ----- | 19.56 | 15.12 | 18.30 | 3.24 | 56.22 |
| 31 | Irving Blomt ----- | 18.06 | 17.22 | 17.58 | 3.23 | 56.09 |
| 32 | William H. Ford ----- | 17.04 | 15.60 | 19.68 | 3.75 | 56.07 |
| 33 | Dion Williams ----- | 18.84 | 16.14 | 18.30 | 2.71 | 55.99 |
| 34 | Edward G. Russell ----- | 17.40 | 17.10 | 18.84 | 2.21 | 55.55 |
| 35 | Thomas J. Sonn ----- | 17.40 | 17.46 | 17.82 | 2.73 | 55.41 |
| 36 | William D. Brotherton ----- | 17.82 | 16.32 | 17.88 | 3.33 | 55.35 |
| 37 | William W. Beck ----- | 17.04 | 16.92 | 17.76 | 3.04 | 54.76 |
| 38 | Louis J. Magill ----- | 17.76 | 15.30 | 18.60 | 3.00 | 54.66 |
| 39 | Jay H. Sypher ----- | 17.76 | 16.56 | 17.34 | 2.93 | 54.59 |
| 40 | William N. McKelvy ----- | 18.06 | 15.78 | 17.28 | 3.39 | 54.51 |
| 41 | Adelbert Althouse ----- | 17.34 | 15.96 | 17.76 | 2.91 | 53.97 |
| 42 | Waldo Evans ----- | 16.50 | 17.04 | 16.62 | 3.68 | 53.84 |
| 43 | Robert L. Flowers ----- | 16.56 | 15.66 | 18.30 | 3.12 | 53.64 |
| 44 | Rufus H. Lane ----- | 17.64 | 16.68 | 16.26 | 2.93 | 53.51 |
| 45 | Charles F. Consaul ----- | 17.16 | 15.66 | 18.12 | 2.55 | 53.49 |
| 46 | Richard H. Leigh ----- | 16.14 | 17.34 | 16.38 | 3.41 | 53.27 |
| 47 | Horace G. Macfarland ----- | 17.76 | 15.54 | 17.88 | 2.03 | 53.21 |
| 48 | Noble N. Irwin ----- | 15.66 | 18.00 | 16.20 | 3.25 | 53.11 |
| 49 | Thomas S. Kellogg ----- | 17.46 | 15.00 | 17.52 | 2.57 | 52.55 |
| 50 | Harry E. Smith ----- | 15.78 | 16.62 | 16.32 | 3.28 | 52.00 |
| 51 | Bion B. Bierer ----- | 16.38 | 16.08 | 15.96 | 3.25 | 51.67 |
| 52 | Kaga K. Nire ----- | 13.44 | 20.04 | 14.34 | 3.24 | 51.06 |
| 53 | John T. Myers ----- | 16.56 | 15.36 | 16.26 | 2.80 | 50.98 |
| 54 | Timothy F. Maurin ----- | 16.92 | 15.00 | 15.90 | 2.77 | 50.59 |
| 55 | Charles W. Lyle ----- | 17.10 | 15.30 | 15.30 | 2.87 | 50.57 |

Merit-roll of naval cadets, fourth class, etc.—Continued.

| Order of merit. | NAME. | English and history. | Algebra and geometry. | French and Spanish. | Conduct. | Aggregate. |
|-----------------|-----------------------------|----------------------|-----------------------|---------------------|----------|------------|
| | Maxima ----- | 24 | 24 | 24 | 4 | 76 |
| 56 | Bernard H. Camden ----- | 15.84 | 16.26 | 15.90 | 2.56 | 50.56 |
| 57 | Thomas L. Jenkins ----- | 16.50 | 15.48 | 16.26 | 2.32 | 50.56 |
| 58 | Will W. Leonard ----- | 15.18 | 15.18 | 17.22 | 2.43 | 50.01 |
| 59 | Louis H. Gross ----- | 16.08 | 15.06 | 16.86 | 1.79 | 49.79 |
| 60 | Elisha Theall ----- | 15.00 | 15.54 | 16.14 | 2.71 | 49.39 |
| 61 | William J. Reese ----- | 15.66 | 15.00 | 16.02 | 2.63 | 49.31 |
| 62 | Wiley S. Embrey ----- | 15.36 | 15.00 | 16.32 | 1.97 | 48.65 |
| † | Peter S. Pillot ----- | 16.26 | 14.46 | 19.20 | 3.25 | 53.17 |
| † | Chester Wells ----- | 18.48 | 14.88 | 15.30 | 2.97 | 51.63 |
| † | Edward Trickle ----- | 15.12 | 14.52 | 16.56 | 3.31 | 49.51 |
| ‡ | Clarence D. Gilchrist ----- | 16.92 | 13.38 | 14.82 | 3.73 | 48.85 |
| † | George Richard ----- | 14.88 | 15.60 | 15.36 | 2.72 | 48.56 |
| ‡ | William L. Lancaster ----- | 15.84 | 14.46 | 14.88 | 2.88 | 48.06 |
| † | Roby Robinson ----- | 15.12 | 14.82 | 15.36 | 2.15 | 47.45 |
| ‡ | Randolph Ridgely ----- | 15.12 | 13.56 | 13.86 | 2.53 | 45.07 |
| α | Charles T. Jewell ----- | a | a | a | 2.36 | |

REGULATIONS

GOVERNING

THE ADMISSION OF CANDIDATES INTO THE NAVAL ACADEMY AS NAVAL CADETS.

NOMINATION.

I. The students at the Naval Academy shall be styled *Naval Cadets*.—(*Rev. Stat.*, § 1512, and act of Congress approved August 5, 1882.)

II. There shall be allowed at said Academy one Naval Cadet for every Member or Delegate of the House of Representatives, one for the District of Columbia, and ten at large.—(*Rev. Stat.*, § 1513, and act of Congress approved June 17, 1878.)

III. The course of Naval Cadets is six years.—(*Rev. Stat.*, § 1520.)

IV. Appointments to fill all vacancies that may occur during a year in the lower grades of the Line and Engineer Corps of the Navy and of the Marine Corps will be made from the Naval Cadets, graduates of the year, at the conclusion of their six years' course, in the order of merit as determined by the Academic Board of the Naval Academy. *At least ten appointments from such graduates will be made each year. Surplus graduates who do not receive such appointments will be given a certificate of graduation, an honorable discharge, and one year's sea pay, as provided for Naval Cadets.*—(*Act of Congress approved August 5, 1882.*)

V. "The Secretary of the Navy shall, as soon after the fifth of March in each year as possible, notify, in writing, each Member and Delegate of the House of Representatives of any vacancy that may exist in his district. The nomination of a candidate to fill said vacancy shall be made upon the recommendation of the Member or Delegate, if such recommendation is made by the first day of July of that year; but, if it is not made by that time, the Secretary of the Navy shall fill the vacancy. The candidate allowed for the District of Columbia and all the candidates appointed at large shall be selected by the President."—(*Rev. Stat.*, § 1514.)

VI. "Candidates allowed for Congressional districts, for Territories, and for the District of Columbia must be actual residents of the districts or Territories, respectively, from which they are nominated. *And all candidates must, at the time of their examination for admission, be between the ages of fourteen and eighteen years, and physically sound, well-formed, and of robust constitution.*"—(*Rev. Stat.*, § 1517.)

VII. Candidates who may be nominated in time to enable them to reach the Academy by the fifteenth of May will receive permission to present themselves on that date to the Superintendent for examination for admission. Those who may not be nominated in time to present themselves at the May examination will be examined on the first of September following.

When either of the above dates shall fall on Sunday the candidates shall present themselves on the Monday following.

Candidates will be required to enter the Academy immediately after passing the prescribed examinations.

No leave of absence will be granted to Cadets of the fourth class.

EXAMINATION.

VIII. "All candidates for admission into the Academy shall be examined according to such regulations and at such stated times as the Secretary of the Navy may prescribe. Candidates rejected at such examination shall not have the privilege of another examination for admission to the same class unless recommended by the Board of Examiners."—(*Rev. Stat.*, § 1515.)

IX. "When any candidate who has been nominated upon the recommendation of a Member or Delegate of the House of Representatives is found, upon examination, to be physically or mentally disqualified for admission, the Member or Delegate shall be notified to recommend another candidate, who shall be examined according to the provisions of the preceding section."—(*Rev. Stat.*, § 1516.)

X. Candidates will be examined physically by a board composed of three medical officers of the Navy. Any one of the following conditions will be sufficient to cause the rejection of a candidate; viz.,

- Feeble constitution, inherited or acquired;
- Retarded development;
- Impaired general health;
- Decided cachexia, diathesis, or predisposition;
- Any disease, deformity, or result of injury that would impair efficiency; such as—
- Weak or disordered intellect;
- Cutaneous or communicable disease;
- Unnatural curvature of spine, torticollis, or other deformity;
- Inefficiency of either of the extremities or large articulations from any cause;
- Epilepsy or other convulsions within five years;
- Impaired vision, disease of the organs of vision, imperfect color sense;
- Impaired hearing or disease of the ear;
- Chronic nasal catarrh, ozæna, polypi, or great enlargement of the tonsils;
- Impediment of speech to such an extent as to impair efficiency in the performance of duty;
- Disease of heart or lungs or decided indications of liability to cardiac or pulmonary affections;

- Hernia or undescended testis;
- Varicocele, sarcocele, hydrocele, stricture, fistula, hemorrhoids, or varicose veins of lower limbs;
- Disease of the genito-urinary organs;
- Chronic ulcers, ingrowing nails, large bunions or other deformity of feet.

Attention will also be paid to the stature of the candidate, and no one *manifestly* under size for his age will be received at the Academy. In the case of doubt about the physical condition of the candidate, any marked deviation from the usual standard of height or weight will add materially to the consideration for rejection. Five feet will be the minimum height for the candidate.

XI. Candidates will be examined mentally by the Academic Board in reading, writing, spelling, arithmetic, geography, English grammar, United States history, and algebra. Deficiency in any one of these subjects will be sufficient to insure the rejection of the candidate.

GENERAL CHARACTER OF THE EXAMINATION.

READING AND WRITING.—Candidates must be able to read understandingly, and with proper accent and emphasis, and to write legibly, neatly, and rapidly.

SPELLING.—They must be able to write, from dictation, paragraphs from standard pieces of English literature, both prose and poetry, sufficient in number to test fully their qualifications in this branch. The spelling throughout the examination will be considered in marking the papers.

ARITHMETIC.—The candidate will be required—

To express in figures any whole, decimal, or mixed number; to write in words any given number; to perform with facility and accuracy the various operations of addition, subtraction, multiplication, and division of whole numbers whether abstract or compound, and to use with facility the tables of money, weight, and measures in common use, including English money.

To reduce compound numbers from one denomination to another, and to express them as decimals, or fractions of a higher or lower denomination; to state the number of cubic inches in a gallon and the relation between the Troy and Avoirdupois pounds and to reduce differences of time to differences of longitude and *vice versa*.

To define prime and composite numbers; to give the tests of divisibility by 3, 5, 7, 9, 11, 25, and 125; to resolve numbers into their prime factors, and to find the least common multiple and the greatest common divisor of large as well as of small numbers.

To be familiar with all the processes of common and decimal fractions, and to give clearly the reasons for such processes, and to be able to use the contracted methods of multiplication and division given in the ordinary text-books on Arithmetic.

To define ratio and proportion, and to solve problems in simple and compound proportion.

To solve problems involving the measurement of rectangular surfaces and of solids, to find the square and cube roots of numbers, and to solve simple problems under percentage, interest, and discount.

The candidates are required to possess such a thorough understanding of all the fundamental operations of Arithmetic as will enable them to apply the various principles to the solution of any complex problem which can be solved by the methods of Arithmetic; in other words, they must possess such a complete knowledge of Arithmetic as will enable them to proceed at once to the higher branches of Mathematics without further study of Arithmetic.

ALGEBRA.—The examination in *Algebra* will be elementary in character, and will be limited to questions and problems upon the fundamental rules, factoring, algebraic fractions, and simple equations of one or more unknown quantities.

GRAMMAR.—In *English Grammar* candidates must exhibit a familiarity with all the parts of speech and the rules in relation thereto; must be able to parse any ordinary sentence given to them, and generally must understand those portions of the subject usually taught and comprehended under the heads of Orthography, Etymology, and Syntax.

The questions will usually be arranged in three divisions. The first division will contain questions somewhat like these:

Explain the uses of the objective case. What verbs have distinction of voice? Give the possessive plural of *sea*, *valley*, *basis*, *stratum*, *bandit*.

The second division will contain one or more sentences to be parsed; *e. g.*,

"*They were always a strange family; they rarely acted like other people; their hearts were in the right place, but their heads always seemed to be doing anything but what they ought.*" Such a sentence must be parsed *fully*, giving the part of speech, and kind, case, voice, mood, tense, number, person, degree of comparison, etc., as the case may be, of each word, and its relation to the other words, thus:

Strange is a descriptive adjective, positive degree. It qualifies the noun *family*.

Comparative, *stranger*.

Superlative, *strangest*.

Acted, an intransitive verb, regular (or weak) in conjugation, indicative mood, past tense, third person, plural number. Its subject is *they*.

The third division will contain a number of incorrect sentences to be corrected, thus:

1. *Describe the sources from which our knowledge of these events are derived.* 2. *How sweetly their voices sound!* 3. *Try and do as you was told!* 4. *I should have liked to have*

been there and seen it. 5. *There's a sweet little cherubim sits up aloft to keep watch for the life of poor Jack!*

Among these, correct sentences will sometimes be introduced to test more thoroughly the knowledge of the candidate.

Since the school grammars used in different parts of the country vary among themselves in their treatment of certain words, an answer approved by any grammar of good repute will be accepted.

GEOGRAPHY.—Candidates will be required to pass a satisfactory examination, written or oral, or both, in descriptive geography, particularly of our own country. Questions will be given under the following heads: The definition of latitude and longitude; the zones; the grand divisions of the land and water; the character of coast-lines; the direction and position of important mountain-chains and the locality of the higher peaks; the position and course of the principal rivers, their tributaries, and the bodies of water into which they empty; the position of important seas, bays, gulfs, and arms of the sea; the position of independent states, their boundaries and capital cities; the position and direction of great peninsulas and the situation of important and prominent capes, straits, sounds, channels, and the most important canals: great lakes and inland seas; position and political connection of important islands and colonial possessions; locality of cities of historical, political, or commercial importance (attention is especially called to the rivers and bodies of water on which cities are situated); the course of a vessel in making a voyage between well known sea-ports.

The candidate's knowledge of the geography of the *United States* can not be too full or specific on all the points referred to above. Accurate knowledge will also be required of the position of the country with reference to other states, and with reference to latitude and longitude; of the boundaries and relative position of the States and Territories, and of the name and position of their capitals, and of other important cities and towns.

HISTORY.—Candidates should be familiar with so much of the history of the United States as is contained in the ordinary school histories.

The examination will be either written or oral, or both, and questions of the same general character as the following will be given:

1. Name the earliest European settlements within the present limits of the United States, and fix their position. When and by whom were these settlements made?

2. Explain the three forms of government in the colonies: royal, proprietary, and charter. Name the colonies that originally existed within the present limits of Massachusetts; of Connecticut. When were those colonies united? What did the colony of Pennsylvania include? When was it divided?

3. State the leading events of the colonial wars, and give the results of each war.

4. What were the remote and immediate causes of the Revolution? Explain the navigation acts, the stamp act, writs of assistance. Name the principal battles and other leading events in the wars of the United States, giving the names of commanding officers and stating the results of the battles.

5. Give an account of the formation and adoption of the Constitution.

Give the names of the Presidents, in order, and the leading events in each administration.

ADMISSION.

XII. Candidates that pass the physical and mental examinations will receive appointments as Naval Cadets, and become students of the Academy. Each Cadet will be required to sign articles by which he binds himself to serve in the United States Navy eight years (including his time of probation at the Naval Academy), unless sooner discharged. The pay of a Naval Cadet is \$500 a year, commencing at the date of his admission.

XIII. Cadets will supply themselves, immediately after their admission, with the following articles, viz.,

| | | | |
|---|---------|--|--------|
| One dress jacket..... | \$19.00 | One hand-glass | \$0.45 |
| One blouse..... | 12.00 | One jack-knife | .53 |
| Two pairs trousers | 22.00 | Six sheets | 3.42 |
| Two working suits | 2.28 | Hammock clews..... | .40 |
| One overcoat..... | 22.00 | One pair bathing trunks | .20 |
| One rubber coat..... | 4.75 | Three pairs white thread gloves .. | .81 |
| One rubber hat..... | .92 | Two black silk neckties | .64 |
| Two pairs regulation leggins | 1.44 | Two clothes bags..... | .50 |
| One parade cap | 2.55 | One hammock mattress..... | 2.85 |
| One knit cap..... | .66 | <i>a</i> One requisition book | .42 |
| One mug..... | .10 | <i>a</i> One pass book | .40 |
| One soap box | .62 | <i>a</i> One stencil, ink, and brush | .45 |
| One laundry book..... | .34 | <i>a</i> One bottle of indelible ink | .18 |
| One pair of blankets..... | 3.75 | <i>a</i> One wash basin and pitcher..... | .84 |
| Two pairs of high shoes | 9.00 | <i>a</i> One pair gymnasium slippers.... | .85 |
| One pair of overshoes | .63 | * One whisk brush | .15 |
| Eight white shirts | 8.00 | * One coarse comb | .12 |
| Twelve linen collars | 1.68 | * One cake of soap | .10 |
| Eight pairs of cuffs..... | 2.00 | * One hair brush | .50 |
| * Eight pairs of socks | 2.00 | * Stationery | .50 |
| * Eight towels | 2.00 | * Twelve white handkerchiefs..... | 2.52 |
| * Shaving outfit | 1.30 | * One pair suspenders..... | .36 |
| * Four pairs drawers (winter) | 5.00 | * Four night shirts..... | 2.52 |
| <i>b</i> Four pairs drawers (summer) | 1.84 | * One tooth brush | .20 |
| * Four undershirts (winter) | 5.00 | * Thread and needles | .15 |
| <i>b</i> Four undershirts (summer) | 2.00 | * Blacking brush and blacking.... | .39 |

When moving into Cadet Quarters, Cadets will supply themselves with the following articles, viz.,

| | | | |
|---------------------------------------|--------|----------------------------------|--------|
| <i>a</i> Two bedspreads..... | \$2.84 | <i>a</i> One rug | \$1.15 |
| <i>a</i> Two pairs drill gloves | 1.00 | <i>a</i> One hair mattress..... | 5.10 |
| <i>a</i> One slop jar | .90 | <i>a</i> One straw mattress..... | 1.32 |
| <i>a</i> Two spatter-cloths..... | .90 | <i>a</i> One broom | .75 |
| One hair pillow | .75 | Six pillow cases..... | 1.50 |
| One mirror..... | 1.60 | | |

Cadets will supply themselves with the following additional articles when preparing to embark on board the practice-ship, viz.,

| | | | |
|------------------------------|--------|------------------------------|--------|
| Three working suits..... | \$3.42 | One pair rubber leggins..... | \$0.85 |
| Four woolen shirts..... | 7.52 | One pair high shoes | 3.75 |
| Three white sailor hats..... | 1.20 | One knit cap..... | .66 |

Articles marked *a* will not be taken on board the practice-ship.

Of the articles marked *b* Cadets entering in September must have four each.

The articles marked *, not being required to conform to a standard pattern, may be brought by the Cadet from home, but all other articles must conform to the regulations, and must therefore be supplied by the store-keeper.

Each Naval Cadet must on admission deposit with the Pay Officer the sum of \$20, for which he will be credited on the books of that officer, to be expended by direction of the Superintendent in the purchase of text-books and other authorized articles besides those enumerated in the preceding article.

All deposits for clothing and the entrance deposit of \$20 must be made before a candidate can be received into the Academy.

SUMMARY OF EXPENSES.

| | |
|-----------------------------|----------|
| Deposit for clothing..... | \$171.12 |
| Deposit for books, &c. | 20.00 |
| | <hr/> |
| Total amount required | 191.12 |

The value of clothing brought from home is to be deducted from this amount.

Each Naval Cadet *one month after admission* will be credited with the amount of his actual expenses in traveling from his home to the Academy.

XIV. A Naval Cadet who voluntarily resigns his appointment within a year of the time of his admission to the Academy will be required to refund the amount paid him for traveling expenses.

COURSE OF INSTRUCTION.

[Reference books are marked (*).]

FIRST YEAR—FOURTH CLASS.

FIRST TERM.

| Department. | Number of recitations a week. | Number of months. | Subjects. | Text-books. |
|---|----------------------------------|-------------------|---|---|
| <i>Mathematics.</i> | 4 | 4 | ALGEBRA: Fundamental operations; reduction and conversion of fractional and surd quantities; reduction and solution of equations of the first and second degrees; inequalities; involution and evolution. | Todhunter's Higher Algebra. |
| | 2 | 4 | GEOMETRY: Geometry of the straight line, of the circle, and of the plane; theory of proportion; properties of similar figures. | Chauvenet's Geometry. |
| <i>English Studies, History, and Law.</i> | 2 | 4 | ENGLISH: The structure and historical development of the English language; syntax; analysis of sentences; punctuation and capitals; exercises in the composition of letters. | Whitney's Essentials of English Grammar. Hart's Punctuation. Webster's Dictionary.* |
| | 3 | 4 | HISTORY: Outlines of history, especially the history of Greece and Rome, and of the states of western Europe; historical geography; important points in naval history, by notes or lectures. | Swinton's Outlines of the World's History. Labberton's Historical Atlas.* |
| <i>Modern Languages.</i> | 5 | 4 | FRENCH: Sauveur system of teaching languages. | Sauveur Petites Causes. Bellows's Pocket Dictionary.* |

FIRST YEAR—FOURTH CLASS—Continued.

SECOND TERM.

| Department. | Number of recitations a week. | Number of months. | Subjects. | Text-books. |
|---|----------------------------------|-------------------|--|--|
| <i>Mathematics.</i> | 3 | 4 | ALGEBRA: Course for first term continued. Development of algebraic functions by means of indeterminate co-efficients and the binomial theorem; permutations and combinations; summation of series; continued fractions; logarithms; exponential equations; theory of equations, including the solution of numerical equations. | Todhunter's Higher Algebra. Bowditch's Useful Tables. |
| | 2 | 4 | GEOMETRY: Course for first term continued. Spherical geometry; the cone and the cylinder; mensuration of rectilinear figures, and of the sphere, cone, and cylinder; application of algebra to determinate geometry. | Chauvenet's Geometry. |
| <i>English Studies, History, and Law.</i> | 2 | 4 | ENGLISH: Rhetoric and composition; choice and use of words; kinds of composition; narration and description; argumentative composition; exercises in the composition of letters and telegrams. Themes. | A. S. Hill's Rhetoric. Ayres's Orthoëpist. Ayres's Verbalist. |
| | 3 | 4 | HISTORY: Progress of colonial development in America, and the history of the United States; important points in the naval history of the United States by notes or lectures. | Eliot's History of the United States. Mitchell's Atlas.* |
| <i>Modern Languages.</i> | 5 $\frac{1}{4}$ | 4 | FRENCH: Sauveur system of teaching languages. SPANISH: Robertsonian system. [Given as an advanced course.] GERMAN: Dreyspring's method of teaching languages. | Petite Grammaire Française pour les Anglais. Bellows's Pocket Dictionary.* Robertson's Spanish Course. Tauchnitz Pocket Dictionary.* Dreyspring's Cumulative Method and Verb Drill. Tauchnitz Pocket Dictionary.* |

SECOND YEAR—THIRD CLASS.

FIRST TERM.

| Department. | No. of recitations a week. | No. of months. | Subjects. | Text-books. |
|---|----------------------------|----------------|--|--|
| <i>Mathematics.</i> | 1 | 4 | DESCRIPTIVE GEOMETRY: Orthographic projections; representation of points, lines, and planes; problems relating to the right line and the plane; representations of surfaces of the second order. | Church's Descriptive Geometry. |
| | 4 | 4 | TRIGONOMETRY: Measures of arcs and angles; trigonometric functions; analytical investigations of trigonometric formulas, with their application to all the cases of plane and spherical triangles; construction and use of trigonometric tables; inverse trigonometric functions; De Moivre's theorem; solution of trigonometric equations; practical applications of trigonometry to the solution of plane and spherical triangles, the astronomical triangle, and the measurements of heights and distances. | Chauvenet's Trigonometry; Todhunter's Trigonometry. Bowditch's Useful Tables. |
| <i>English Studies, History, and Law.</i> | 3 2 | 1 3 | ENGLISH: Classification of words; definition of words by usage and by derivation; synonyms; laws of change in the meaning of words; faults in diction and their remedies; selection and arrangement; elementary principles of reasoning; principles of composition; exercises in the composition of official dispatches, letters, and telegrams. Themes. | Abbott and Seely's English Lessons for English People; Abbott's How to Write Clearly. Ayres's Orthoëpist.* Ayres's Verbalist.* |
| | 2 1 | 1 3 | HISTORY: Contemporary history, including the comparative study of governments, institutions, and political geography. | The School Herald. Martin's Statesman's Year Book.* Mitchell's Atlas.* |
| | 2 | 3 | LAW: Constitution of the United States. | Andrews's Manual of the Constitution. |
| <i>Modern Languages.</i> | 3 | | FRENCH: Reading and translating French comedy; conversation and grammar. | Böcher's Series of French Plays. Bercy La Langue Française, 1 ^{ère} Partie. |
| | | | SPANISH: The Robertsonian system; conversations thereon; reading and translating extracts from modern authors; writing original themes. [Given as an advanced course.] | Bellows's Dictionary.* Robertson's Spanish Course. Knapp's Spanish Readings. |
| | | | GERMAN: Continuation of fourth-class course; reading German comedy; writing original themes. [Given as an advanced course.] | Dreyspring's Cumulative Method and Verb Drill. Ehlerman's Collection of German Plays. Tauchnitz Pocket Dictionary.* |
| <i>Mechanical Drawing.</i> | 2 | 4 | MECHANICAL DRAWING: Sketching from models; the use of instruments; construction of scales; notation and symbols used in mechanical drawings; construction of rectilinear and curved figures to scale; drawing section lines; round writing. Drawing exercises in descriptive geometry, including the projections of lines and planes, the construction of geometrical solids, and the projections and sections of surfaces and solids. | Tomkin's Machine Construction and Drawing.* |

SECOND YEAR—THIRD CLASS—Continued.

SECOND TERM.

| Department. | Number of recitations a week. | Number of months. | Subjects. | Text-books. |
|-------------------------------|-------------------------------|-------------------|--|---|
| <i>Physics and Chemistry.</i> | 5 | 4 | <p>PHYSICS: An elementary course intended to present the leading principles and the correlation of the branches of physical science; to which more time is devoted during the second and first class years. Constant practice with the fundamental and derived units of the C. G. S. system. Practical work in the physical laboratory; experiments illustrating the daily recitations and exact measurements of length, mass, volume, and specific gravity. Lectures.</p> <p>CHEMISTRY: Recitations in general and organic chemistry. Practical work in the chemical laboratory; experiments illustrating the daily recitations, and the determination of simple salts, acids, and bases. Lectures.</p> | <p>Daniell's Principles of Physics.</p> <p>Practical Physics, by Stewart and Gee.</p> <p>Remsen's General Chemistry.</p> <p>Remsen's Organic Chemistry.</p> <p>Lecture Notes.</p> |
| <i>Mathematics.</i> | 1 4 | 4 4 | <p>DESCRIPTIVE GEOMETRY: Course for first term continued. Warped surfaces, and surfaces of revolution; development of single-curved surfaces; intersection of surfaces; tangent lines and planes; projections of the sphere; axometric projections; shades and shadows.</p> <p>ANALYTICAL GEOMETRY: Equations of the straight line and of the conic sections; transformation of co-ordinates; properties of the conic sections; equations to tangents and normals; determination of loci; discussion of the general equation of the second degree; equations of the plane, of lines in space, and of surfaces of the second order; the principal properties of surfaces of the second order; discussion of the general equation of the second degree in three variables.</p> | <p>Church's Descriptive Geometry.</p> <p>C. Smith's Conic Sections; Aldis's Solid Geometry.</p> |
| <i>Modern Languages.</i> | 2 | 4 | <p>FRENCH: Reading and conversation. Translation from English into French themes.</p> <p>SPANISH: Continuation of first term course (advanced course).</p> <p>GERMAN: Continuation of first term course (advanced course).</p> | <p>Bercy La Langue Française, 2^{me} Partie, Bellows's Pocket Dictionary.*</p> <p>Same as first term.</p> <p>Same as first term.</p> |
| <i>Mechanical Drawing.</i> | 4½ | 4 | <p>MECHANICAL DRAWING: Sketching from models; representation of objects by projections; drawing the projections of models to scale; oblique projections; isometrical drawing; drawing screws, bolts, nuts, gearing, and details of guns, machinery, and engines; round writing. Drawing exercises in descriptive geometry, including the intersections of surfaces, development of single-curved surfaces, and problems on the surfaces of revolution.</p> | <p>Tomkin's Machine Construction and Drawing.*</p> |

THIRD YEAR—SECOND CLASS.

FIRST TERM.

| Department. | Number of recitations a week. | Number of months. | Subjects. | Text-books. |
|---|----------------------------------|-------------------|--|--|
| <i>Steam Engineering.</i> | 4 | 4 | MARINE ENGINES AND BOILERS: Explanation of all the parts of an engine; types of engines; steam valves and other valves; generation of steam; distribution and expansion of steam; screw propellers and side wheels; the indicator and its diagrams; the power of an engine and computations relating to it; hydrometers; saturation; scale and its prevention; casualties; boilers; materials; combustion; transfer of heat; testing steam-engines; the principles of mechanism. | Sennett's Marine Steam-Engine. Goodeve's Elements of Mechanism. |
| <i>Mechanics and Applied Mathematics.</i> | 5 | 2 | DIFFERENTIAL CALCULUS: Functions; rates; differentials of functions; indeterminate forms; series; maxima and minima; geometrical applications; functions of two or more variables. | Rice and Johnson's Differential Calculus. |
| | 5 | 2 | INTEGRAL CALCULUS: The methods of integration; definite integrals; quadrature of surfaces; cubiture of volumes; rectification of curves; centres of gravity; moments of inertia; planimeters; rules for the approximate determination of areas and volumes; differential equations. | Johnson's Integral Calculus, and Differential Equations. |
| <i>Physics and Chemistry.</i> | 4 | 4 | PHYSICS: Recitations on simple harmonic motion; wave motion, sound, light, and heat. Practical work in the physical laboratory; experiments illustrating the daily recitations and some exact measurements, such as the determination of the candle power of gas and electric lights, index of refraction of glass prisms and lenses and of liquids, focal length of lenses, length of light waves. Photography. | Daniell's Principles of Physics. Ganot's Physics. Stewart's Treatise on Heat. Practical Physics, by Stewart and Gee. Kohlrausch's Physical Measurements. Lecture Notes. |
| <i>Modern Languages.</i> | 1 | 4 | FRENCH: Reading and translation of professional articles, conversation, and themes. | Professional French Reader. Bellows's Pocket Dictionary.* |
| <i>Mechanical Drawing.</i> | 2 | 4 | MECHANICAL DRAWING: Sketching machinery and making working drawings; making tracings and blue prints of drawings; perspective. | Tomkin's Machine Construction and Drawing. |

THIRD YEAR—SECOND CLASS—Continued.

SECOND TERM

| Department. | Number of recitations a week. | Number of months. | Subjects. | Text-books. |
|--|----------------------------------|-------------------|--|---|
| <i>Astronomy, Navigation, and Surveying.</i> | 2 | 4 | THE CELESTIAL SPHERE: Spherical and rectangular co-ordinates; use of instruments, especially those for determining terrestrial latitudes and longitudes; different units of time and calendars; the moon; tides; motion of the solar system; solutions of the astronomical triangle; use of the Nautical Almanac. | White's Astronomy; Chauvenet's Spherical and Practical Astronomy; Bowditch's Navigator; American Ephemeris and Nautical Almanac. |
| <i>Steam Engineering.</i> | 3½ | 4 | Course for first term continued. | |
| <i>Mechanics and Applied Mathematics.</i> | 5 | 4 | MECHANICS: Kinematics; dynamics; kinetics; hydromechanics; the motion of projectiles; friction and other resistances; the application of mechanical principles to simple machines and to instruments. | Bowser's Analytical Mechanics. Bowser's Hydromechanics. |
| <i>Physics and Chemistry.</i> | 4 | 4 | PHYSICS: Recitations in light and heat, concluded. Electricity and magnetism commenced. Practical work in the physical laboratory; calibration of thermometers; determination of the hygrometric state of the atmosphere; measurements of the co-efficients of expansion, and the specific heat and latent heat of various substances; other experiments illustrating the course of study and leading to the skilful use of instruments of precision. Photography. General experiments illustrating the phenomena of static and voltaic electricity; setting up and comparing galvanic cells and secondary batteries; measuring their resistance and electromotive force; calibration of galvanometers; determination of dip and horizontal intensity. | Same as first term, and Thompson's Electricity and Magnetism. Ayrton's Practical Electricity. Day's Exercises in Electrical Measurements. Lecture Notes. |
| <i>English Studies, History, and Law.</i> | 1 | 4 | ENGLISH LITERATURE: Themes; Lectures. | Shakespeare's Julius Caesar, Rolfe's Edition. School Herald. |
| <i>Modern Languages.</i> | 1 | 1½ | FRENCH: Same as first term. | Same as first term. |

FOURTH YEAR—FIRST CLASS.

FIRST TERM.

| Department. | Number of recitations a week. | Number of months. | Subjects. | Text-books. |
|---|----------------------------------|-------------------|--|--|
| <i>Seamanship, Naval Construction, and Naval Tactics.</i> | 4 | 4 | <p>SEAMANSHIP: Fitting and rigging ships for sea; rope, blocks, and tackles; wire rope and metal fittings; purchasing weights; fitting and use of ground tackle; storage; handling vessels at wharves and docking; sails; working ship under sail and under steam; repairs to rigging, spars, rudder, and all fittings in emergencies; turning experiments; fitting and management of boats; duties of officers and crew; organization of crews; drills and evolutions; rules of the road; laws of storms; general instruction upon the management of vessels of various rigs and propellers.</p> <p>NAVAL CONSTRUCTION: Wooden ship building; ship-building in iron and steel, including the various systems of framing; keels, keelsons, stems, and ram bows; sterns, plating, deck-framing, bulkheads, rudders, miscellaneous fittings, and armor-plating; torpedo boats and vessels of special construction; sheathing of ships; launching; docks and docking; displacement and buoyancy of ships, and considerations of water-tight decks, bulkheads, and double bottoms; stability of ships, and the use of diagrams of stability; rolling and pitching of ships; water-chambers and bilge-keels; structural strength and strains of ships; materials for ship-building; tests of steel; resistance of ships; steering of ships; the qualities and performance of ships in general.</p> <p>NAVAL TACTICS: Tactical units and nomenclature; manœuvring groups of ships; fleet manœuvres.</p> <p>SIGNALING: Army and Navy (English Morse) code; Navy code of flag signals; International code.</p> | <p>Luce's Seamanship.</p> <p>Special Notes and Drawings.</p> <p>Navy Department Pamphlets.</p> <p>Reed's Ship Building.</p> <p>White's Manual of Naval Architecture.</p> <p>Navy and International Signal Books.</p> <p>Fleet Drill Book, Navy Department.</p> |
| <i>Ordnance and Gunnery.</i> | 3 | 4 | <p>ORDNANCE INSTRUCTIONS: Handling great guns; preparing ship for action; duties of officers and men when at quarters for exercise, and when engaged in battle; handling boat-howitzers and machine-guns afloat and on shore; landing of seamen and marines.</p> | <p>Ordnance Instructions.</p> <p>Text-book of Ordnance and Gunnery (Naval Academy publication).</p> |

FOURTH YEAR—FIRST CLASS—Continued.

FIRST TERM—continued.

| Department. | Number of recitations a week. | Number of months. | Subjects. | Text-books. |
|--|-------------------------------|-------------------|--|---|
| <i>Ordnance and Gunnery.</i> | 3 | 3 | <p>INFANTRY TACTICS: School of the soldier; school of the company; school of the battalion; instruction for skirmishers.</p> <p>GUNNERY: The motion of projectiles in a non-resisting medium and in air; the methods of finding the trajectory, the remaining velocity, and the angle of fall; the dangerous space; sighting and pointing guns; the errors liable to occur in practice at sea, and the methods of avoiding them; the preparation of range tables, and corrections for jump and drift; the determination of ranges at sea.</p> | <p>Upton's Tactics.</p> <p>Text-book of Ordnance and Gunnery (Naval Academy publication). Exterior Ballistics (Naval Academy publication). Ordnance Notes.</p> |
| <i>Astronomy, Navigation, and Surveying.</i> | 4 | 4 | <p>THE CELESTIAL SPHERE: Spherical and rectangular co-ordinates; the use of instruments, especially those for determining terrestrial latitudes and longitudes; different units of time; calendars; the moon; tides; nebulae; motion of the solar system; solutions of the astronomical triangle; use of the Nautical Almanac.</p> <p>THE THEORY AND PRACTICE OF NAVIGATION, including instruction in the duties of the navigator, the constructing and use of navigating instruments, the use of tables, and the solution of problems; determination of meridian distances.</p> | <p>White's Astronomy. Chauvenet's Spherical and Practical Astronomy. Bowditch's Navigator. American Ephemeris and Nautical Almanac. Bowditch's Navigator. "Navigation" arranged as a text-book for the U. S. Naval Academy.</p> |
| <i>Mechanics and Applied Mathematics.</i> | 3 | 1 | METHOD OF LEAST SQUARES: The theory of least squares and probable errors; fundamental principles of the theory; practical methods and formulas; independent observations; conditioned observations. | Merriman's Method of Least Squares. |
| | 3 | 3 | APPLIED MECHANICS: Elasticity; stress and strain; theory of structures; strength and deflection of beams; beams of uniform resistance. | Cotterill's Applied Mechanics. |
| <i>Physics and Chemistry.</i> | 3 | 4 | <p>PHYSICS: Recitations in electricity and magnetism; practical work in physical laboratory; determination of the constants of galvanometers; testing ammeters and voltmeters; running dynamos and electric motors and measuring their efficiency; experiments on the electric transmission of energy; testing cables and electric light wires; experiments upon induction; practice in photography and micro-photography.</p> <p>CHEMISTRY: A short course in chemical analysis.</p> | <p>Same as second class year.</p> <p>Lecture Notes.</p> |

FOURTH YEAR—FIRST CLASS—Continued.

SECOND TERM.

| Department. | Number of recitations a week. | Number of months. | Subjects. | Text-books. |
|---|----------------------------------|-------------------|--|--|
| <i>Seamanship, Naval Construction, and Naval Tactics.</i> | 5 | 4 | Course of the first term continued. | |
| <i>Ordnance and Gunnery.</i> | 5 $\frac{1}{4}$ | 4 | <p>GUNNERY: Accuracy and rapidity of fire; the probability of hitting objects of various forms; the mean and probable errors of guns; derivation of rules for correcting certain errors which arise in practice at sea; the penetration and effect of projectiles.</p> <p>ORDNANCE: The manufacture of guns; description of service guns; computation of the strength and shrinkage of guns; rifling; rotation and its influence on the motion of projectiles. The manufacture and use of gunpowder and other explosives; the force developed when explosives are fired in their own volume, and the equation of motion of the projectile in the bore of a gun on this hypothesis, and also on the hypothesis that the explosive burns progressively; the laws of burning of grains of gunpowder of various forms; the formulas (of Noble and Abel) connecting pressures with density of loading, and for determining the work of expansion in a gun; development of the principles involved in loading guns; formulas connecting muzzle velocities and pressures with the elements of loading.</p> <p>GUN CARRIAGES: Their construction and the mechanism employed in controlling and adjusting recoil, and the theory of such control.</p> <p>AMMUNITION: Its preparation and use.</p> | <p>Text-book of Ordnance and Gunnery (Naval Academy publication).</p> <p>The Elastic Strength of Guns (Naval Academy publication).</p> <p>Interior Ballistics (Naval Academy publication).</p> <p>Berger's Probability of Hitting an Object.</p> |

FOURTH YEAR—FIRST CLASS—Continued.

SECOND TERM—continued.

| Department. | Number of recitations a week. | Number of months. | Subjects. | Text-books. |
|--|-------------------------------|-------------------|---|---|
| <i>Astronomy, Navigation, and Surveying.</i> | 4 | 4 | <p>THEORY OF THE DEVIATION OF THE COMPASS, including the nature and causes of the several parts of the deviation, the determination of the vertical and horizontal forces of the earth and ship, the causes and amount of the heeling error, the changes which take place upon a change of geographical position, the graphic representations of the amount and direction of the forces which act on the needle, and the mechanical correction of the deviation and heeling errors. Navigation.</p> <p>HYDROGRAPHIC SURVEYING: The instruments used; selection and measurement of bases; determination of azimuth of base; triangulation; determination of heights; leveling; plotting a survey; hydrographical surveying; tidal observations; current observations; sailing directions; the form of the earth, with special reference to the construction of charts; projections; running surveys.</p> | <p>Howell's Theory of the Deviations of the Compass.</p> <p>Evans's Elementary Manual for the Deviations of the Compass in Iron Ships.</p> <p>Chauvenet's Spherical and Practical Astronomy.</p> <p>Howell's Marine Surveying.</p> <p>Projection Tables.</p> <p>Bowditch's Navigator.</p> |
| <i>Physiology and Hygiene.</i> | 1½ | 4 | <p>PHYSIOLOGY AND HYGIENE: General description of the human body and its functions. Hæmorrhage, its causes and methods of arrest. Drowning, means of resuscitation therefrom. Common accidents, measures to be adopted therein.</p> <p>Ventilation, necessity for, and means of, in ships and houses.</p> <p>Bathing, exercise, clothing.</p> <p>Foods; digestibility of, methods of cooking; what the body requires and does not require.</p> <p>Impure water, alcoholic drinks, tobacco, and other narcotics; their nature and effects in various amounts, on the human system.</p> <p>Habit, its inheritance, formation, and correction. Requisites for a healthy body and a sound mind.</p> <p>Specific contagious diseases.</p> <p>Lectures, notes, and illustrations.</p> | Cutter's Comprehensive Physiology. |

ASSIGNMENT OF TIME.

| Departments. | Fourth class. | | Third class. | | Second class. | | First class. | |
|---|---------------|-----------------|--------------|-----------------|---------------|-----------------|--------------|-----------------|
| | 1st term. | 2d term. | 1st term. | 2d term. | 1st term. | 2d term. | 1st term. | 2d term. |
| Seamanship, Naval Construction, and Naval Tactics | | | | | | | 4 | 5 |
| Ordnance and Gunnery | | | | | | | 3 | 5 |
| Astronomy, Navigation, and Surveying | | | | | | 2 | 3 | 4 |
| Steam Engineering | | | | | 4 | 3 | | F |
| Mechanics and Applied Mathematics | | | | | 5 | 5 | 3 | |
| Physics and Chemistry | | | | 5 F | 4 | 4 | 3 | |
| Mathematics | 6 | 5 | 5 | 5 | | | | |
| English Studies, History, and Law | 5 | 5 | 4 | 1 | | | | |
| Modern Languages | 5 | 5 $\frac{1}{4}$ | 3 | 2 | 1 F | $\frac{1}{4}$ F | | |
| Mechanical Drawing | | | 4 | 2 $\frac{1}{4}$ | 2 | 1 | | |
| Physiology and Hygiene | | | | | | | | 1 $\frac{1}{4}$ |

PROGRAMME OF RECITATIONS.

FIRST TERM—1888-'89.

| Departments. | Fourth class. | Third class. | Second class. | First class. |
|---|------------------------|----------------------|---------------------------------|---------------------|
| Astronomy, Navigation, and Surveying | M. T. W. Th. F. (2) | M. F. S. (1), T. (3) | | T. W. Th. F. (1). |
| English Studies, History, and Law | M. T. W. Th. F. S. (1) | M. T. W. Th. F. (2) | | |
| Mathematics | | M. W. Th. F. (3) | T. (3), S. (1) | |
| Mechanical Drawing | | | M. T. W. Th. F. (1) | M. W. F. (2). |
| Mechanics and Applied Mathematics | | | M. (2), F. (7.30 to 9.30 p. m.) | |
| Modern Languages | | | | |
| Ordnance and Gunnery | M. T. W. Th. F. (3) | T. W. Th. (1) | T. W. Th. F. (2) | T. Th. (2), F. (3). |
| Physics and Chemistry | | | | M. S. (1). |
| Seamanship, Naval Construction, and Naval Tactics | | | | M. T. W. Th. (3). |
| Steam Engineering | | | M. W. Th. F. (3) | |

SECOND TERM.

| | | | | |
|---|-----------------------------|--|---------------------------------|---------------------------|
| Astronomy, Navigation, and Surveying | M. T. W. Th. F. (3) | M. (1) | W. F. (3) | M. T. Th. F. (1). |
| English Studies, History, and Law | M. T. W. Th. F. (1) | M. T. W. Th. F. (2) | | |
| Mathematics | | T. Th. (3), S. (1) | W. (2) | |
| Mechanical Drawing | | | M. T. W. Th. F. (1) | |
| Mechanics and Applied Mathematics | | | S. (1), F. (7.30 to 9.30 p. m.) | |
| Modern Languages | M. T. W. Th. F. (2), S. (1) | W. F. (3) | | M. T. W. Th. F. (2). |
| Ordnance and Gunnery | | | | |
| Physics and Chemistry | | { M. (3), T. W. Th. F. (1), F. (7.30 to 9.30 p. m.) } | M. T. Th. F. (2) | |
| Physiology and Hygiene | | | | W. (3), S. (1). |
| Seamanship, Naval Construction, and Naval Tactics | | | | M. T. Th. F. (3), W. (1). |
| Steam Engineering | | | M. T. Th. (3) | F. (7.30 to 9.30 p. m.) |

TABLE OF CO-EFFICIENTS.

| Department and subjects. | Fourth class. | Third class. | Second class. | First class. | Maxima for four years. | Maxima for final graduation. |
|---|---------------|--------------|---------------|--------------|------------------------|------------------------------|
| <i>Seamanship, Naval Construction, and Naval Tactics.</i> | | | | | | |
| Seamanship, Ship Building, and Naval Tactics----- | | | | 17 | | 56 |
| Cruise Reports, Navigation Note Books, Journals, and Station Bills----- | | | | | | 24 |
| Practice Cruise----- | | | | 5 | 88 | |
| <i>Ordnance and Gunnery.</i> | | | | | | |
| Ordnance Instructions, Infantry Tactics, and Gunnery---- | | | | *18 | 72 | 44 |
| Ordnance and Gunnery----- | | | | | | |
| <i>Astronomy, Navigation, and Surveying.</i> | | | | | | |
| Astronomy, Navigation, and Surveying----- | | | 3 | 13 | 76 | 44 |
| Practice Cruise----- | | | | 3 | | |
| <i>Steam Engineering.</i> | | | | | | |
| Steam Machinery, Marine Engines, and Boilers----- | | | 12 | | | |
| Practical Instruction in Steam----- | | | | 2 | 68 | 44 |
| Summer Practical Work----- | | | 3 | | | |
| <i>Mechanics and Applied Mathematics.</i> | | | | | | |
| Differential and Integral Calculus, and Mechanics----- | | | 15 | | | |
| Least Squares and Strength of Materials----- | | | | 5 | 80 | |
| <i>Physics and Chemistry.</i> | | | | | | |
| Chemistry and Physics----- | | 6 | | | | |
| Physics----- | | | 12 | | | |
| Physics----- | | | | 5 | 92 | |
| <i>Mathematics.</i> | | | | | | |
| Algebra and Geometry----- | 6 | | | | | |
| Trigonometry, Analytical Geometry, and Descriptive Geometry----- | | 12 | | | 72 | |
| <i>English Studies, History, and Law.</i> | | | | | | |
| English and History----- | 6 | | | | | |
| English, History, and Law----- | | 6 | | | 48 | |
| <i>Modern Languages.</i> | | | | | | |
| French, Spanish, and German----- | 6 | 6 | 5 | | | |
| French, Spanish, and German----- | | | | | 68 | 28 |
| <i>Mechanical Drawing.</i> | | | | | | |
| Mechanical Drawing----- | | 6 | 4 | | 40 | |
| <i>Miscellaneous.</i> | | | | | | |
| Physiology and Hygiene----- | | | | 3 | 12 | |
| Conduct----- | 1 | 2 | 3 | 5 | 44 | |
| Maxima for each class----- | 76 | 152 | 228 | 304 | 760 | 240 |
| Deduction for each demerit----- | 0.013 | 0.032 | 0.060 | 0.133 | | |

* In making up the standing for a year, the second term is given double the weight of the first term.

PRACTICAL INSTRUCTION OF CADETS.

SEAMANSHIP.

Knotting and splicing; compass and lead line; ship nomenclature; cutting and fitting hemp rigging; cutting and fitting wire rigging; rowing, and the management of boats under oars and under sail; sail making; making up, bending, unbending, and handling sails; rigging ship; stripping ship; shifting spars; getting under way and anchoring; evolutions with vessels under sail and under steam; signaling. Army and Navy codes; management of steam launches; steam fleet tactics (with steam launches).

ORDNANCE AND GUNNERY.

School of the soldier; school of the company; school of the battalion (infantry); skirmish drill; school of the battery; school of the battalion (artillery); exercises with broadside guns, pivot guns, monitor guns, mortars, boat howitzers, and machine guns; target practice with small-arms; target practice with mortars; target practice afloat with machine guns, rifled howitzers, and great guns; small-sword exercise; broad-sword exercise; handling and firing torpedoes; determination of the strength and elasticity of gun-metal, with testing machine; determination of muzzle velocities with the Schultz chronoscope; determination of pressures in guns by means of pressure gauges; experimental determination of range tables, also of the jump and drift; application of photography to ordnance purposes; the preparation and inspection of ordnance material.

ASTRONOMY, NAVIGATION, AND SURVEYING.

Practical navigation; surveying and constructing a chart of a portion of the Severn River.

Swinging an iron ship, and observing the deviations and the times of vibration of horizontal and vertical needles on different courses; and from these observations finding the approximate and the exact co-efficient and the horizontal and vertical forces acting on the standard and steering compasses; also finding the heeling co-efficients for the same compasses without heeling the ship.

STEAM ENGINEERING.

Vise-bench work; forging; boiler-making; pattern-making; machine-tool work; taking apart and putting together engines; running engines of launches, vessels, and monitors (motive and turret).

PROGRAMME OF PRACTICAL INSTRUCTION.

When more than one kind of exercise is prescribed during a week the number of each exercise is indicated by a figure in parenthesis.

FIRST CLASS.

| Months. | Weeks. | First Division. | Second Division. | Third Division. | Fourth Division. |
|---------------------|--------|---|---|---|---|
| Oct ----- | 1 | Company (4). Monitor (1). | Battery (4). Monitor (1). | Target great guns (4). Monitor (1). | Steam tactics (4). Monitor (1). |
| | 2 | Battery (4). Monitor (1). | Company (4). Monitor (1). | Steam tactics (4). Monitor (1). | Target great guns (4). Monitor (1). |
| | 3 | Seamanship. | Seamanship. | Seamanship. | Seamanship. |
| | 4 | Target great guns (4). Monitor (1). | Steam tactics (4). Monitor (1). | Company (4). Monitor (1). | Battery (4). Monitor (1). |
| Nov ----- | 1 | Seamanship. | Seamanship. | Seamanship. | Seamanship. |
| | 2 | Steam tactics (4). Monitor (1). | Target great guns (4). Monitor (1). | Battery (4). Monitor (1). | Company (4). Monitor (1). |
| | 3 | Battalion infantry (4). Monitor (1). | Battalion infantry (4). Monitor (1). | Battalion infantry (4). Monitor (1). | Battalion infantry (4). Monitor (1). |
| | 4 | Battalion artillery. | Battalion artillery. | Battalion artillery. | Battalion artillery. |
| Dec ----- | 1 | Broadsword. | Steam. | Practical ordnance. | Steam. |
| | 2 | Steam. | Broadsword. | Steam. | Practical ordnance. |
| | 3 | Practical ordnance. | Steam. | Broadsword. | Steam. |
| | 4 | | | | |
| Jan ----- | 1 | Steam. | Practical ordnance. | Steam. | Broadsword. |
| | 2 | Small sword. | Steam. | Practical ordnance. | Steam. |
| | 3 | Steam. | Smallsword. | Steam. | Practical ordnance. |
| | 4 | Practical ordnance. | Steam. | Small sword. | Steam. |
| | 5 | SEMI-ANNUAL EXAMINATION. | | | |
| Feb ----- | 1 | Steam. | Practical ordnance. | Steam. | Small sword. |
| | 2 | Broadsword. | Steam. | Seamanship. | Steam. |
| | 3 | Steam. | Broadsword. | Steam. | Seamanship. |
| | 4 | Seamanship. | Steam. | Broadsword. | Steam. |
| Mar ----- | 1 | Steam. | Seamanship. | Steam. | Broadsword. |
| | 2 | Deviat'n compass (4). Seamanship (1). | Deviat'n compass (4). Seamanship (1). | Deviat'n compass (4). Seamanship (1). | Deviat'n compass (4). Seamanship (1). |
| | 3 | Seamanship. | Seamanship. | Seamanship. | Seamanship. |
| | 4 | General quarters. | General quarters. | General quarters. | General quarters. |
| April ---- | 1 | Seamanship. | Seamanship. | Seamanship. | Seamanship. |
| | 2 | Target great guns (4). General quarters (1). | Skirmish (4). General quarters (1). | Steam tactics (4). General quarters (1). | Torpedoes (4). General quarters (1). |
| | 3 | Skirmish (4). Seamanship (1). | Target great guns (4). Seamanship (1). | Torpedoes (4). Seamanship (1). | Steam tactics (4). Seamanship (1). |
| | 4 | Steam tactics (4). Seamanship (1). | Torpedoes (4). Seamanship (1). | Target great guns (4). Seamanship (1). | Skirmish (4). Seamanship (1). |
| May ----- | 1 | Torpedoes (4). General quarters (1). | Steam tactics (4). General quarters (1). | Skirmish (4). General quarters (1). | Target great guns (4). General quarters (1). |
| | 2 | Battalion infantry (4). Seamanship (1). | Battalion infantry (4). Seamanship (1). | Battalion infantry (4). Seamanship (1). | Battalion infantry (4). Seamanship (1). |
| | 3 | Battalion artillery (2). Seamanship (3). | Battalion artillery (2). Seamanship (3). | Battalion artillery (2). Seamanship (3). | Battalion artillery (2). Seamanship (3). |
| | 4 | Steam tactics (3). General quarters (2). | Steam tactics (3). General quarters (2). | Steam tactics (3). General quarters (2). | Steam tactics (3). General quarters (2). |
| | 5 | | | | |
| | M. | Battalion infantry. | Battalion infantry. | Battalion infantry. | Battalion infantry. |
| | T. | Battalion artillery. | Battalion artillery. | Battalion artillery. | Battalion artillery. |
| | W. | General quarters. | General quarters. | General quarters. | General quarters. |
| | Th. | Steam tactics. | Steam tactics. | Steam tactics. | Steam tactics. |
| | F. | Battalion infantry. | Battalion infantry. | Battalion infantry. | Battalion infantry. |
| | S. | Seamanship. | Seamanship. | Seamanship. | Seamanship. |
| June 1 to 10. | } -- | ANNUAL EXAMINATION. | | | |
| June 10 to Aug. 28. | } -- | Practice cruise. | | | |
| Sept ----- | ---- | On leave. | | | |

SECOND CLASS.

| Months. | Weeks. | First division. | Second division. | Third division. | Fourth division. |
|---------------|----------|--------------------------|--------------------------|--------------------------|--------------------------|
| Oct ----- | 1 | Company. | Battery. | Pivot guns. | Steam launches. |
| | 2 | Battery. | Company. | Steam launches. | Pivot guns. |
| | 3 | Seamanship. | Seamanship. | Seamanship. | Seamanship. |
| | 4 | Pivot guns. | Steam launches. | Company. | Battery. |
| Nov ----- | 1 | Seamanship. | Seamanship. | Seamanship. | Seamanship. |
| | 2 | Steam launches. | Pivot guns. | Battery. | Company. |
| | 3 | Battalion infantry. | Battalion infantry. | Battalion infantry. | Battalion infantry. |
| | 4 | Battalion artillery. | Battalion artillery. | Battalion artillery. | Battalion artillery. |
| Dec ----- | 1 | Small sword. | Steam. | Navy signals. | Steam. |
| | 2 | Steam. | Small sword. | Steam. | Navy signals. |
| | 3 | Navy signals. | Steam. | Small sword. | Steam. |
| | 4 | | | | |
| Jan ----- | 1 | Steam. | Navy signals. | Steam. | Small sword. |
| | 2 | Broadsword. | Steam. | Seamanship. | Steam. |
| | 3 | Steam. | Broadsword. | Steam. | Seamanship. |
| | 4 | Seamanship. | Steam. | Broadsword. | Steam. |
| | 5 | SEMI-ANNUAL EXAMINATION. | | | |
| Feb ----- | 1 | Steam. | Seamanship. | Steam. | Broadsword. |
| | 2 | Small sword. | Steam. | Practical ordnance. | Steam. |
| | 3 | Steam. | Small sword. | Steam. | Practical ordnance. |
| | 4 | Practical ordnance. | Steam. | Small sword. | Steam. |
| Mar ----- | 1 | Steam. | Practical ordnance. | Steam. | Small sword. |
| | 2 | Broadsword (4). | Broadsword (4). | Broadsword (4). | Broadsword (4). |
| | 3 | Seamanship (1). | Seamanship (1). | Seamanship (1). | Seamanship (1). |
| | 4 | Seamanship. | Seamanship. | Seamanship. | Seamanship. |
| April ----- | 1 | General quarters. | General quarters. | General quarters. | General quarters. |
| | 2 | Seamanship. | Seamanship. | Seamanship. | Seamanship. |
| | | Target great guns (4). | Skirmish (4). | Steam tactics (4). | Target machine guns (4). |
| | 3 | General quarters (1). | General quarters (1). | General quarters (1). | General quarters (1). |
| | | Skirmish (4). | Target great guns (4). | Target machine guns (4). | Steam tactics (4). |
| | 4 | Seamanship (1). | Seamanship (1). | Seamanship (1). | Seamanship (1). |
| | | Steam tactics (4). | Target machine guns (4). | Target great guns (4). | Skirmish (4). |
| May ----- | 1 | Seamanship (1). | Seamanship (1). | Seamanship (1). | Seamanship (1). |
| | | Target machine guns (4). | Steam tactics (4). | Skirmish (4). | Target great guns (4). |
| | 2 | General quarters (1). | General quarters (1). | General quarters (1). | General quarters (1). |
| | | Battalion infantry (4). | Battalion infantry (4). | Battalion infantry (4). | Battalion infantry (4). |
| | 3 | Seamanship (1). | Seamanship (1). | Seamanship (1). | Seamanship (1). |
| | | Battalion artillery (2). | Battalion artillery (2). | Battalion artillery (2). | Battalion artillery (2). |
| | 4 | Seamanship (3). | Seamanship (3). | Seamanship (3). | Seamanship (3). |
| | | Steam tactics (3). | Steam tactics (3). | Steam tactics (3). | Steam tactics (3). |
| | | General quarters (2). | General quarters (2). | General quarters (2). | General quarters (2). |
| (Fifth week.) | M. | Battalion infantry. | Battalion infantry. | Battalion infantry. | Battalion infantry. |
| | T. | Battalion artillery. | Battalion artillery. | Battalion artillery. | Battalion artillery. |
| | W. | General quarters. | General quarters. | General quarters. | General quarters. |
| | Th. | Steam tactics. | Steam tactics. | Steam tactics. | Steam tactics. |
| | F. | Battalion infantry. | Battalion infantry. | Battalion infantry. | Battalion infantry. |
| | S. | Seamanship. | Seamanship. | Seamanship. | Seamanship. |
| June 1 to 10 | } }-- | ANNUAL EXAMINATION. | | | |

SECOND CLASS.

| Summer months. | Weeks. | First division. | Second division. | Third division. | Fourth division. |
|----------------|--------|--|---|--|--|
| Sept ----- | 1 | Machine-shop a. m. Target machine-guns p. m. | Machine-shop a. m. Howitzers afloat p. m. | Machine-shop a. m. Navy signals; Army signals p. m. | Machine-shop a. m. Target howitzers p. m. |
| | 2 | Machine-shop a. m. Target howitzers p. m. | Machine-shop a. m. Target machine guns p. m. | Machine-shop a. m. Howitzers afloat p. m. | Machine-shop a. m. Navy signals; Army signals p. m. |
| | 3 | Machine-shop a. m. Navy signals; Army signals p. m. | Machine-shop a. m. Target howitzers p. m. | Machine-shop a. m. Target machine guns p. m. | Machine-shop a. m. Howitzers afloat p. m. |
| | 4 | Running steam cutters a. m. Howitzers afloat p. m. | Running steam cutters a. m. Navy signals; Army signals p. m. | Running steam cutters a. m. Target howitzers p. m. | Running steam cutters a. m. Target machine guns. |
| | 5 | Machine-shop a. m. Boats p. m. | Machine-shop a. m. Boats p. m. | Machine-shop a. m. Boats p. m. | Machine-shop a. m. Boats p. m. |
| | 6 | Machine-shop a. m. Target great guns p. m. | Machine-shop a. m. Mortar practice p. m. | Machine-shop a. m. Boats p. m. | Machine-shop a. m. Steam tactics p. m. |
| | 7 | Machine-shop a. m. Steam tactics p. m. | Machine-shop a. m. Target great guns p. m. | Machine-shop a. m. Mortar practice p. m. | Machine-shop a. m. Boats p. m. |
| | 8 | Machine-shop a. m. Boats p. m. | Machine-shop a. m. Steam tactics p. m. | Machine-shop a. m. Target great guns p. m. | Machine-shop a. m. Mortar practice p. m. |
| | 9 | Machine-shop a. m. Mortar practice p. m. | Machine-shop a. m. Boats p. m. | Machine-shop a. m. Steam tactics p. m. | Machine-shop a. m. Target great guns p. m. |
| | 10 | Machine-shop a. m. Boats p. m. | Machine-shop a. m. Boats p. m. | Machine-shop a. m. Boats p. m. | Machine-shop a. m. Boats p. m. |
| | 1 | } On leave. | On leave. | On leave. | On leave. |
| | 2 | | | | |
| | 3 | | | | |
| | 4 | | | | |

THIRD CLASS.

| Months. | Weeks. | First division. | Second division. | Third division. | Fourth division. |
|--------------------|---------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Oct ----- | 1 | Company. | Battery. | Pivot guns. | Boats. |
| | 2 | Battery. | Company. | Boats. | Pivot guns. |
| | 3 | Seamanship. | Seamanship. | Seamanship. | Seamanship. |
| | 4 | Pivot guns. | Boats. | Company. | Battery. |
| Nov ----- | 1 | Seamanship. | Seamanship. | Seamanship. | Seamanship. |
| | 2 | Boats. | Pivot guns. | Battery. | Company. |
| | 3 | Battalion infantry. | Battalion infantry. | Battalion infantry. | Battalion infantry. |
| | 4 | Battalion artillery. | Battalion artillery. | Battalion artillery. | Battalion artillery. |
| ec ----- | 1 | Small sword. | Seamanship. | Broadside guns. | Rigging loft. |
| | 2 | Rigging loft. | Small sword. | Seamanship. | Broadside guns. |
| | 3 | Broadside guns. | Rigging loft. | Small sword. | Seamanship. |
| | 4 | | | | |
| Jan ----- | 1 | Seamanship. | Broadside guns. | Rigging loft. | Small sword. |
| | 2 | Small sword. | Target small arms. | Broadside guns. | Rigging loft. |
| | 3 | Rigging loft. | Small sword. | Target small arms. | Broadside guns. |
| | 4 | Broadside guns. | Rigging loft. | Small sword. | Target small arms. |
| | 5 | SEMI-ANNUAL EXAMINATION. | | | |
| Feb ----- | 1 | Target small arms. | Broadside guns. | Rigging loft. | Small sword. |
| | 2 | Small sword. | Target pistol. | Army signals. | Rigging loft. |
| | 3 | Rigging loft. | Small sword. | Target pistol. | Army signals. |
| | 4 | Army signals. | Rigging loft. | Small sword. | Target pistol. |
| Mar ----- | 1 | Target pistol. | Army signals. | Rigging loft. | Small sword. |
| | 2 | Pivot guns (4). | Pivot guns (4). | Pivot guns (4). | Pivot guns (4). |
| | 3 | Seamanship (1). | Seamanship (1). | Seamanship (1). | Seamanship (1). |
| | 4 | Seamanship. | Seamanship. | Seamanship. | Seamanship. |
| April ----- | 1 | General quarters. | General quarters. | General quarters. | General quarters. |
| | 2 | Seamanship. | Seamanship. | Seamanship. | Seamanship. |
| | 3 | Target small arms (4). | Skirmish (4). | Seamanship (4). | Boat (4). |
| | 4 | General quarters (1). | General quarters (1). | General quarters (1). | General quarters (1). |
| | 5 | Skirmish (4). | Target small arms (4). | Boats (4). | Seamanship. |
| | 6 | Seamanship (1). | Seamanship (1). | Seamanship (1). | Seamanship. |
| | 7 | Seamanship. | Boats (4). | Target small arms (4). | Skirmish (4). |
| May ----- | 1 | Boats (4). | Seamanship (1). | Seamanship (1). | Seamanship (1). |
| | 2 | General quarters (1). | Seamanship (4). | Skirmish (4). | Target small arms (4). |
| | 3 | Battalion infantry (4). | General quarters (1). | General quarters (1). | General quarters (1). |
| | 4 | Seamanship (1). | Battalion infantry (4). | Battalion infantry (4). | Battalion infantry (4). |
| | 5 | Seamanship (3). | Seamanship (1). | Seamanship (1). | Seamanship (1). |
| | 6 | Battalion artillery (2). | Battalion artillery (2). | Battalion artillery (2). | Battalion artillery (2). |
| | 7 | Seamanship (3). | Seamanship (3). | Seamanship (3). | Seamanship (3). |
| | 8 | Small sword (3). | Small sword (3). | Small sword (3). | Small sword (3). |
| | 9 | General quarters (2). | General quarters (2). | General quarters (2). | General quarters (2). |
| (Fifth week.) | M. | Battalion infantry. | Battalion infantry. | Battalion infantry. | Battalion infantry. |
| | T. | Battalion artillery. | Battalion artillery. | Battalion artillery. | Battalion artillery. |
| | W. | General quarters. | General quarters. | General quarters. | General quarters. |
| | Th. | Boats. | Boats. | Boats. | Boats. |
| | F. | Battalion infantry. | Battalion infantry. | Battalion infantry. | Battalion infantry. |
| | S. | Seamanship. | Seamanship. | Seamanship. | Seamanship. |
| June 1 to 8. | ANNUAL EXAMINATION. | | | | |
| June 9 to Aug. 30. | Practice cruise. | | | | |
| Sept ----- | On leave. | | | | |

FOURTH CLASS.

| Months. | Weeks. | First division. | Second division. | Third division. | Fourth division. |
|--------------------|---------------------|--------------------------|-------------------------|-------------------------|-------------------------|
| Oct ----- | 1 | Company. | Battery. | Gymnastics. | Boats. |
| | 2 | Battery. | Company. | Boats. | Gymnastics. |
| | 3 | Seamanship. | Seamanship. | Seamanship. | Seamanship. |
| | 4 | Gymnastics. | Boats. | Company. | Battery. |
| Nov ----- | 1 | Seamanship. | Seamanship. | Seamanship. | Seamanship. |
| | 2 | Boats. | Gymnastics. | Battery. | Company. |
| | 3 | Battalion infantry. | Battalion infantry. | Battalion infantry. | Battalion infantry. |
| | 4 | Battalion artillery. | Battalion artillery. | Battalion artillery. | Battalion artillery. |
| Dec ----- | 1 | Dancing. | Gymnastics. | Broadside guns. | Rigging loft. |
| | 2 | Rigging loft. | Dancing. | Gymnastics. | Broadside guns. |
| | 3 | Broadside guns. | Rigging loft. | Dancing. | Gymnastics. |
| | 4 | | | | |
| Jan ----- | 1 | Gymnastics. | Broadside guns. | Rigging loft. | Dancing. |
| | 2 | Dancing. | Gymnastics. | Broadside guns. | Rigging loft. |
| | 3 | Rigging loft. | Dancing. | Gymnastics. | Broadside guns. |
| | 4 | Broadside guns. | Rigging loft. | Dancing. | Gymnastics. |
| | 5 | SEMI-ANNUAL EXAMINATION. | | | |
| Feb ----- | 1 | Gymnastics. | Broadside guns. | Rigging loft. | Dancing. |
| | 2 | Dancing. | Gymnastics. | Dancing. | Rigging loft. |
| | 3 | Rigging loft. | Dancing. | Gymnastics. | Dancing. |
| | 4 | Dancing. | Rigging loft. | Dancing. | Gymnastics. |
| Mar ----- | 1 | Gymnastics. | Dancing. | Rigging loft. | Dancing. |
| | 2 | Company (4). | Company (4). | Company (4). | Company (4). |
| | 3 | Seamanship (1). | Seamanship (1). | Seamanship (1). | Seamanship (1). |
| | 4 | Seamanship. | Seamanship. | Seamanship. | Seamanship. |
| April ----- | 1 | General quarters. | General quarters. | General quarters. | General quarters. |
| | 2 | Seamanship. | Seamanship. | Seamanship. | Seamanship. |
| | 3 | Rigging loft (4). | Skirmish (4). | Seamanship (4). | Boats (4). |
| | 4 | General quarters (1). | General quarters (1). | General quarters (1). | General quarters (1). |
| | 5 | Skirmish (4). | Rigging loft (4). | Boats (4). | Seamanship. |
| | 6 | Seamanship (1). | Seamanship (1). | Seamanship (1). | Skirmish (4). |
| | 7 | Seamanship. | Boats (4). | Rigging loft (4). | Seamanship (1). |
| May ----- | 1 | Boats (4). | Seamanship (1). | Seamanship (1). | Rigging loft (4). |
| | 2 | General quarters (1). | General quarters (1). | General quarters (1). | General quarters (1). |
| | 3 | Battal'n infantry (4). | Battal'n infantry (4). | Battal'n infantry (4). | Battal'n infantry (4). |
| | 4 | Seamanship (1). | Seamanship (1). | Seamanship (1). | Seamanship (1). |
| | 5 | Battal'n artillery (2). | Battal'n artillery (2). | Battal'n artillery (2). | Battal'n artillery (2). |
| | 6 | Seamanship (3). | Seamanship (3). | Seamanship (3). | Seamanship (3). |
| | 7 | Seamanship (3). | Seamanship (3). | Seamanship (3). | Seamanship (3). |
| | 8 | General quarters (2). | General quarters (2). | General quarters (2). | General quarters (2). |
| (Fifth week.) | M. | Battalion infantry. | Battalion infantry. | Battalion infantry. | Battalion infantry. |
| | T. | Battalion artillery. | Battalion artillery. | Battalion artillery. | Battalion artillery. |
| | W. | General quarters. | General quarters. | General quarters. | General quarters. |
| | Th. | Boats. | Boats. | Boats. | Boats. |
| | F. | Battalion infantry. | Battalion infantry. | Battalion infantry. | Battalion infantry. |
| | S. | Seamanship. | Seamanship. | Seamanship. | Seamanship. |
| June 1 to 8. | ANNUAL EXAMINATION. | | | | |
| June 9 to Aug. 30. | Practice cruise. | | | | |
| Sept. ----- | 1 | School of soldier.* | School of soldier.* | School of soldier.* | School of soldier.* |
| | 2 | School of soldier.* | School of soldier.* | School of soldier.* | School of soldier.* |
| | 3 | { School of soldier.* | { School of soldier.* | { School of soldier.* | { School of soldier.* |
| | 4 | { Sch. sec. howitzer. | { Sch. sec. howitzer. | { Sch. sec. howitzer. | { Sch. sec. howitzer. |
| | | { School of soldier.* | { School of soldier.* | { School of soldier.* | { School of soldier.* |
| | | { Sch. sec. howitzer. | { Sch. sec. howitzer. | { Sch. sec. howitzer. | { Sch. sec. howitzer. |

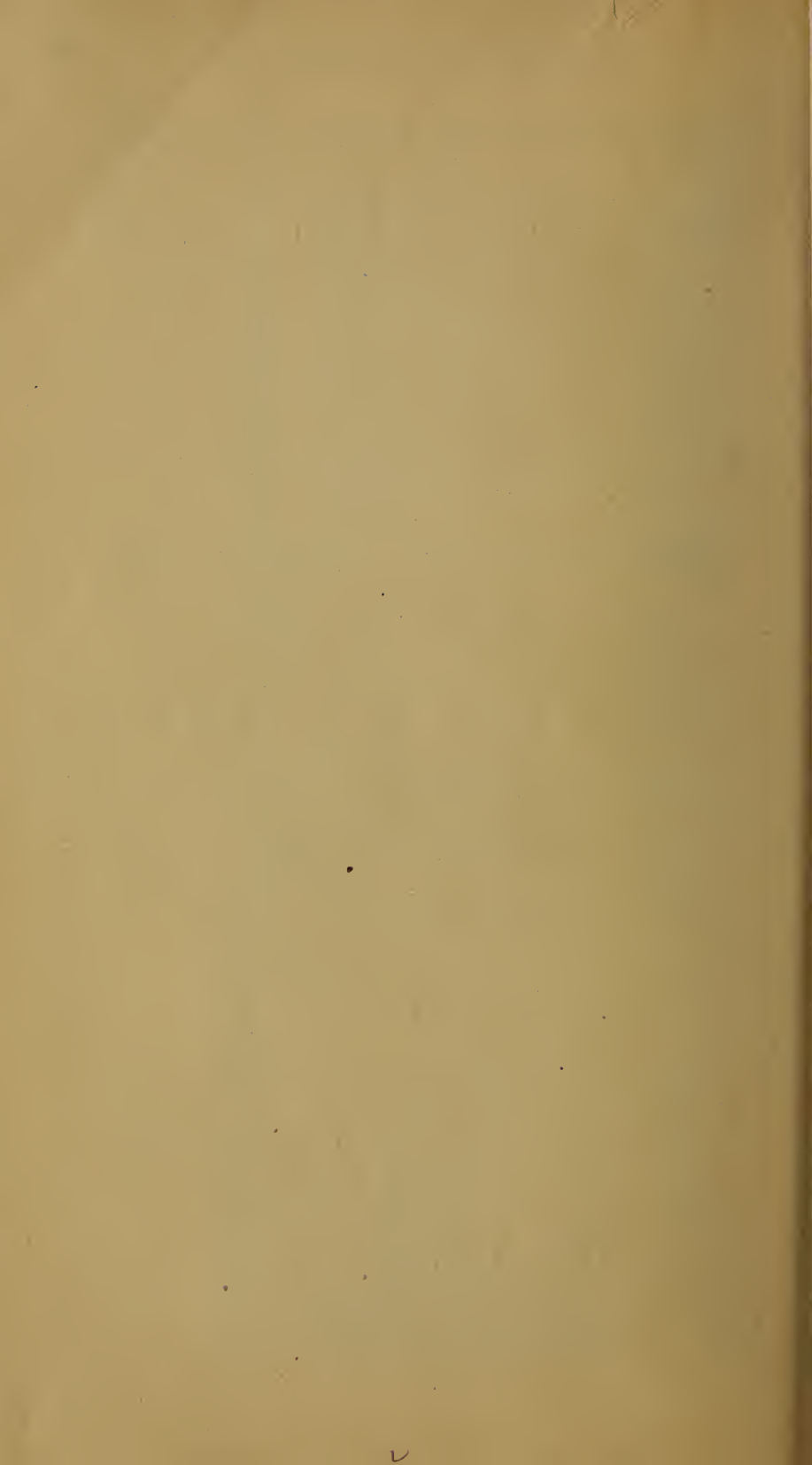
* Swimming daily.

| Kind of instruction. | During the academic year. | | | | Total number of instructions during academic year. | During summer months. | | | | During month of September, fourth class. | Total number of instructions, exclusive of practice cruise. |
|--|---------------------------|---------------|--------------|---------------|--|-----------------------|---------------|--------------|---------------|--|---|
| | First class. | Second class. | Third class. | Fourth class. | | First class. | Second class. | Third class. | Fourth class. | | |
| School of the company----- | 4 | 5 | 5 | 9 | 23 | ----- | ----- | ----- | ----- | ----- | 23 |
| School of the battalion, infantry----- | 10 | 11 | 11 | 11 | 43 | ----- | ----- | ----- | ----- | ----- | 43 |
| Skirmish drill----- | 4 | 4 | 4 | 4 | 16 | ----- | ----- | ----- | ----- | ----- | 16 |
| Broadsword----- | 10 | 9 | ----- | ----- | 19 | ----- | ----- | ----- | ----- | ----- | 19 |
| Small sword----- | 5 | 10 | 18 | ----- | 33 | ----- | ----- | ----- | ----- | ----- | 33 |
| Practical instruction in deviation of compass----- | 4 | ----- | ----- | ----- | 4 | (*) | ----- | ----- | ----- | ----- | 4 |
| Practical instruction, navigation----- | † 14 | † 13 | ----- | ----- | ----- | (*) | ----- | ----- | ----- | ----- | † 27 |
| Practical instruction, surveying----- | † 10 | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | † 10 |
| Machine shop and running shop engines----- | 30 and † 13 | 30 | ----- | ----- | 60 | ----- | 54 | ----- | ----- | ----- | 114 and † 13 |
| Running steam launches----- | ----- | 5 | ----- | ----- | 5 | ----- | 6 | ----- | ----- | ----- | 11 |
| Practical instruction in chemistry----- | ----- | ----- | † 13 | ----- | ----- | ----- | ----- | ----- | ----- | ----- | † 13 |
| Gymnastics----- | ----- | ----- | ----- | 20 | 20 | ----- | ----- | ----- | ----- | ----- | 20 |
| Swimming----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | 24 | 24 |
| Dancing----- | ----- | ----- | ----- | 20 | 20 | ----- | ----- | ----- | ----- | ----- | 20 |

* Practice cruise.

† Study periods.

The instructions in seamanship and gunnery on board of the *Wyoming*, *Passaic*, and *Standish* are also made instructions in running and managing the engines and boilers of those vessels. The instructions in naval tactics are also made instructions in running and managing the engines and boilers of the steam launches when practicable.



Annual register

1888-1889

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